

7. *The Drassidae of South Africa (Arachnida).*—By

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(With Plates VIII–XI.)

*Scope.*

THE following Monograph gives an account of the Drassid spiders of South Africa. The term South Africa is meant to apply to the region south of the 15° latitude and not to political South Africa. Even so, the boundary is an artificial one arachnologically, for, as far as can be seen from the distribution of the species at present known, certain Cape Province \* species occur in South-West Africa, and others spread northwards to the East African equatorial region, and certain Abyssinian species spread south to the same region. Whether the interpenetration is carried further, the known material does not show. Mediterranean species, however, merge with Abyssinian, and the latter with Arabian species, and so on. To attempt to work out the distribution of species, therefore, requires the knowledge of a greater number of specimens recorded from various regions than are available at present. It is probable, however, that as Drassids are small, agile spiders, protecting themselves by living under any fallen object which can provide shelter, there is no reason why any barrier short of the Sahara Desert should impede their distribution. In fact, the distribution of the Drassids seems parallel to that of Ants, as set out by Mr. G. Arnold of the Rhodesia Museum in the preface to his Monograph on "Formicidae," Ann. S.A. Mus., vol. xiv, pt. i.

*Drassidae* as a rule do not feature largely in collections, because not only has special search to be made for them, but their agility makes them difficult to capture. In addition, owing to the uniformity in appearance of the species of various genera, it is only sexually mature specimens that can be identified with certainty, and such specimens are only obtainable at certain periods of the year. This being so, the records of species are naturally of a somewhat scattered and isolated nature; nevertheless the genera and species here dealt with most probably include the major portion of the Drassids of South

\* All the localities recorded in the following pages are in the Cape Province of S. Africa, save where definitely stated otherwise; e.g. S. Rhodesia, Natal, S.W. Prot., etc.

Africa. New species and genera will undoubtedly be found from time to time in the vast territory under consideration, but for the most part further collecting will help more towards working out the distribution of the species now known and dealt with than in increasing them.

### *Arrangement.*

In his standard work, *Histoire Naturelle des Araignées*, tom. i, and Suppl., tom. ii, Simon deals with the family *Drassidae*, and it is on his divisions and tables of genera that the arrangement of the following Monograph is based. Simon divides the family into four sub-families, all of which are represented in Africa. The various genera of these families, however, are not all known from Africa. Keys are given in the following pages to include all genera of *Drassidae* given by Simon, together with other genera since added to the other sub-families, in order to facilitate the subsequent placing, or identification, of new genera which may be found in South Africa from time to time. Sub-families, groups, and genera are dealt with in the following pages in the sequence into which they fall in the keys based on their natural characters. Species, however, are described or recorded in alphabetical order, and not in the sequence into which they fall in their keys.

As this Monograph, however, is intended to deal only with the *Drassidae* of South Africa up to the latitude 15° S., only those species actually found up till now in this particular region are described and keyed here.

In some genera the general characters and appearance are so uniform, and sufficient specific characters on which to work out keys are so lacking, that keying the species of such genera has often been a matter of difficulty. In all cases of doubt, however, a glance at the figures of the sexual organs will settle the identity of a species almost at once.

Every description is based on type specimens, personally examined; in the few cases in which this has not been possible, the author's description is quoted in inverted commas.

My thanks are due to Mr. S. Hirst of the British Museum, and Mr. J. Hewitt of the Albany Museum, Grahamstown, for facilities given in examining the type specimens in their charge.

### *Key to Sub-Families.*

- (4). 1. Inferior spinners widely separate, indurated, longer than the superior spinners, and usually well separated transversely from them.



- (3). 2. Coxae and often trochanters of 4th pair of legs longer than the rest.  
Maxillae not or scarcely impressed . . . . . *Hemicloeinae*.
- (2). 3. Coxae and almost always patellae of 1st pair of legs longer than the rest.  
Maxillae distinctly impressed . . . . . *Drassodinae*.
- (1). 4. Inferior spinners almost contiguous, soft integument, shorter and nearer  
to the superior spinners.
- (6). 5. Maxillae lightly impressed, borders of cheliceral grooves muticous. Tarsi  
of legs slender and curved . . . . . *Cithaeroninae*.
- (5). 6. Maxillae not impressed; borders of cheliceral grooves dentate. Tarsi of  
legs straight . . . . . *Cybaeodinae*.

## FIRST SUB-FAMILY.

### HEMICLOEINAE.

#### *Key to Genera.*

- (2). 1. Cephalothorax fairly thick, but flattened above. Legs not lateral, an-  
teriors longer than posteriors; coxae usually subequal. *Trachycosmus*.
- (1). 2. Cephalothorax very flat. Legs lateral, 2nd pair longer than the rest.  
Posterior coxae much longer than the remainder.
- (4). 3. Sternum produced between the anterior coxae, forming a transverse,  
somewhat rectangular extension . . . . . *Hemicloea*.
- (3). 4. Sternum gradually narrowed anteriorly.
- (6). 5. Cephalothorax wider than long, considerably rounded on both sides.  
*Pyrnus*.
- (5). 6. Cephalothorax longer than wide, as in *Hemicloea*.
- (10). 7. Median spinners truncated, laterally compressed, and bearing long fusules  
apically.
- (9). 8. Fusules on median spinners numerous and biseriate. Posterior median  
eyes much larger than the laterals . . . . . *Rebilus*.
- (8). 9. Fusules on median spinners sparse and large. Posterior median eyes  
slightly smaller than the laterals . . . . . *Corimaethes*.
- (7). 10. Median spinners simple and conical.
- (12). 11. Inferior margin of chelicera armed with 2 well-separated teeth. Posterior  
legs as in *Hemicloea* . . . . . *Hemicloeina*.
- (11). 12. Inferior margin of chelicera muticous, superior margin or ridge bearing  
0-5 (or more) well-separated teeth. Coxae and trochanters of posterior  
legs markedly the longest . . . . . *Platyoides*.

Of the above genera, only 2 are recorded from South Africa, namely, *Hemicloea* and *Platyoides*. As only 1 species of *Hemicloea* has been recorded, it may be doubtful whether the genus really occurs in South Africa. *Platyoides*, however, is widespread in South Africa.

*Trachycosmus*, *Pyrnus*, *Rebilus*, *Corimaethes*, and *Hemicloeina* have not as yet been found in South Africa.

## GEN. HEMICLOEA, Thorell.

## HEMICLOEA WALTERI, Karsch.

1886. *H. walteri*. F. Karsch in Berliner Ent. Zeit., Bd. xxx, Hft. ii, p. 151.

“♀. *Chief Character*.—Middle eyes of front row nearer to one another than side eyes; coxae of hind pair of legs as long as coxa and trochanter (hip joint and shank ring) of the last but one pair. Coxa and trochanter of hind pair about equally long, and together somewhat longer than the femur (shank) of the same leg.

“*Form*.—Cephalothorax very broad, flat, and sharply margined; head slightly produced anteriorly. Sternum broad oval, and produced in front beyond the coxae of the anterior pair of legs. Mandibles very strong and powerful, strongly convex, projecting far beyond the maxillae; maxillae slender. Abdomen very broad and flat. Plate of vulva broader than long, weakly scalloped in front, tripartite behind; the hollow of the surface T-shaped.

“*Colour*.—Cephalothorax, mandibles, and maxillae dark red brown; legs yellow; sternum yellow with black border, and dark red brown in front. Abdomen grey, darker above, and strongly wrinkled.

“*Clothing*.—Hairs simple, mostly rubbed off.

“*Measurements*.—Body between 15 and 16 mm. Cephalothorax 6.3 mm. long, 5.2 wide. Abdomen 9.3 long, 8 broad. 1st pair of legs 18.5, 2nd pair 20.5, 3rd pair 18, 4th pair 20.2 mm. long.

“*Locality*.—Botsabelo, Transvaal. (Dr. Max Bartels.)”

## GEN. PLATYOIDES, Cambr.

*Key to Species.*

- (12). 1. Anterior laterals twice or less the diameter of an anterior median eye from the latter.
- (7). 2. Legs smooth.
- (4). 3. Metatarsus I scopulate to base . . . . . *pictus*.
- (3). 4. Metatarsus I sparsely scopulate anteriorly.
- (6). 5. Metatarsus I spined on under surface . . . . . *pusillus*.
- (5). 6. Metatarsus I not spined on under surface . . . . . *laterigradus*.
- (2). 7. Legs clothed with bristles and long hairs.
- (9). 8. Chelicera without teeth . . . . . *abrahami*.
- (8). 9. Chelicera with teeth.
- 11). 10. Metatarsus scopulate over distal half; chelicera with 5 teeth. *costeri*.
- (16). 11. Metatarsus I with only a few scopular hairs anteriorly; chelicera with 2 teeth . . . . . *pusilliformis*.

- (1). 12. Anterior laterals three times, or more than twice, the diameter of a median eye from the latter.
- (14). 13. Chelicera without teeth . . . . . *separata*.
- (13). 14. Chelicera with teeth.
- (17). 15. Metatarsus with a small anterior scopula.
16. Chelicera bearing 2 teeth . . . . . *bidentifer*.
- (15). 17. Metatarsus I scopulate nearly to base.
- (19). 18. Chelicera with 3 teeth . . . . . *leppanae*.
- (18). 19. Chelicera with 5 teeth . . . . . *quinquedentatus*.

PLATYOIDES ABRAHAMI, Cambr.

1890. *P. abrahami*. Cambr. in P.Z.S., 1890, p. 625, pl. liii, fig. 4, *a-g*.

“*Adult female*, length (not including the falces) very nearly six lines. The colour of the cephalothorax and falces is a liver-coloured brown, the normal grooves and indentations blackish.

“The *legs* have the tarsi, metatarsi, tibiae, and genuae of a rather olive brown, the remainder dull orange yellow.

“The *palpi* are olive brown, as also are the maxillae and labium, the last being darkest.

“The *sternum* is dull orange, with a narrow reddish-brown margin.

“The *abdomen* is thinly clothed with short hairs, and of an almost uniform dull black above, paler along the middle of the upper side, and with traces of transverse pale oblique lines just above the spinners, but no distinct pattern visible, though this may have been owing to the rather damaged condition of the type specimen; the under side is of a uniform pale dull yellow brown.

“*Hab.*—South Africa.”

The dentition of the cheliceral grooves is not mentioned in the specific description, and in the generic description they are spoken of as “thickly furnished with hairs on the inner sides,” teeth being apparently absent. The generic description of the eyes applies equally to other species as to *abrahami*.

The vulva is figured in pl. liii, *loc. cit.*

PLATYOIDES BIDENTIFER, Purc.

1907. *P. bidentatus*. Purc. in A.M.N.H., ser. 7, vol. xx, p. 297, pl. xiii, figs. 1-2.

*Specimens*.—♂ and ♀ (13,710 types), Kentani (Miss Pegler, May 1903); also ♀♀ from East London and Port St. John's, Pondoland.



♀ *Colour*.—Carapace dark reddish brown with slight lateral and radial infuscation; chelicera reddish brown; legs yellowish brown, darker distally. Sternum yellowish brown, dark-edged. Abdomen testaceous, with fairly uniform infuscation dorsally and laterally.

*Eyes*.—Anterior laterals quite 3 times a median's diameter from latter. Posterior laterals about 3 times their diameter from the anterior laterals.

*Chelicera*.—Superior border with 2 teeth.

*Legs*.—Not hairy, but with scattered long bristles; metatarsus with very small anterior scopula and not spined on under surface.

*Vulva*.—As in fig. 1, *loc. cit.*

*Measurements*.—Length of carapace, 4.2 mm.; breadth, 4 mm. Total length, 8.6 mm.

♂ *Colour*.—Carapace and legs yellowish brown; legs slightly darker distally. Sternum dark-edged; abdomen testaceous, very slightly infuscated dorsally.

*Eyes*.—Anterior laterals barely a median's diameter from the latter. Posterior laterals more than a diameter from the anterior laterals.

*Chelicera and Legs*.—As in ♂.

*Pedipalps*.—Palpal organ as in fig. 2, *loc. cit.*

*Measurements*.—Length and breadth of carapace, 1.9 mm. Total length, 4.8 mm.

*Record of New Locality*.—1 ♀ (B 4155). Mfongosi, Zululand. (W. E. Jones, February 1918.)

#### PLATYOIDES COSTERI, n. sp. (Fig. 1.)

*Specimen*.—1 ♀ (B 4597 type). Mossel Bay. (J. H. Power, February 1919.)

*Colour*.—Carapace and chelicera red brown, carapace slightly yellower posteriorly; 1st pair of legs mahogany brown, other legs yellowish brown, becoming darker distally, except for the tarsi, which are all pale in colour; all legs considerably infuscated, especially the under surfaces of the femora. Abdomen testaceous, with a median dark testaceous band merging posteriorly with 2 lateral bands. Sternum orange brown, darker anteriorly, and dark-rimmed.

*Carapace*.—Length equal to patella and  $\frac{1}{2}$  tibia I; width equal to the distance from the posterior border to the posterior median eyes.

*Eyes*.—Median eyes more than a diameter apart, smaller than the laterals, which are about twice their own diameter distant. Posterior

row strongly recurved, medians small, nearly 4 times their own diameter apart, and slightly more from the laterals, which are subequal to the anterior laterals.

*Chelicera*.—Bearing 5 teeth.

*Legs*.—Tarsus and metatarsus I scopulated, the latter mainly on the distal half; metatarsus bearing several spiniform hairs, especially on the under surface; 2nd leg similar, tarsus also with a few stout bristles, and metatarsus with more numerous spiniform hairs on the under surface. Tarsus III clothed with bristles and fine spines on the under surface, and metatarsus bearing numerous fine spines; 4th leg similar.

*Vulva*.—As in fig. 1. (The figure should be narrower and broader, and the dark portions more inclined outwards.)

*Measurements*.—Carapace, 5·5 mm. Total length, 14 mm. (exclusive of chelicera).

This specimen has been named after Miss Alice Coster, of Bloemfontein, at the request of Mr. J. H. Power of Kimberley, in recognition of the help she gave him on many zoological excursions.

PLATYOIDES LATERIGRADUS, Poc.

1898. *P. laterigradus*. Pocock in A.M.N.H., vol. ii, ser. 7, p. 219, pl. viii, fig. 2.

“*Colour*.—Carapace and mandibles mahogany brown; sternum and basal three segments of legs ochre yellow; legs from patellae to tarsi lightly infuscate, though paler below; abdomen ashy grey, paler beneath.

“*Carapace*.—A little longer than broad, about as long as the tibia and half the protarsus of the first and as the femur of the fourth leg; anterior median eyes separated by a space slightly exceeding their diameter, but separated from the anterior laterals by a space which equals almost two diameters.

“*Mandibles*.—With one largish tooth near the base of the inferior border; hairy below, the hairs arising from the summits of little papillae; front of mandibles sparsely setose.

“*Legs*.—Also sparsely setose, not spined; protarsi and tarsi of first and second lightly scopulate below; the scopulae of the second thinner than of the first; patella and tibia of first and fourth about equal, and less than patella of second; fourth leg exceeding second leg by the length of its tarsus.

“*Abdomen* oval, nearly twice as long as wide.

“*Vulva* as in pl. viii, fig. 12; inferior spinners short and conical, scarcely longer than broad.

“*Measurements in Millimetres*.—Total length, 13; length of carapace 4, width 3.3; length of first leg 11, of second 13, of third 10, of fourth 12 (measured from base of femur).

“*Loc.*—Estcourt, Natal, 4000 ft.”

To this description Pocock adds: “In size and colouring this species certainly resembles *P. abrahami* (O. P. Cambr.)”; also, “Since neither Mr. Cambridge nor Mons. Simon detected in *P. abrahami* the tooth that I have described in *laterigradus*, one is compelled to assume that it is absent in the former species.”

#### PLATYOIDES LEPPANAE, Poc.

1902. *P. leppanae*. Pocock in A.M.N.H., ser. 7, vol. x, p. 19, pl. iii, fig. 8.

*Specimens*.—♂ and ♀ types, Br. Museum. Teafountain, Grahams-town. (Miss Leppan, 1900.)

♀ *Colour*.—Carapace mahogany brown, darker anteriorly; chelicera darker and redder; legs yellowish brown, slightly infuscate on under surface, redder distally. Abdomen testaceous, with median and lateral dark bands, the former narrowing posteriorly. Sternum reddish brown, dark-edged.

*Eyes*.—Anterior laterals at least 3 times a median’s diameter from the latter. Posterior laterals smaller than the anterior laterals and quite twice the latter’s diameter from them.

*Chelicera*.—Superior margin with 3 teeth.

*Legs*.—Well clothed with hair and bristles. Metatarsus I densely scopulate over anterior  $\frac{2}{3}$ ; no spines on under surface.

*Vulva*.—As in fig. 8, *loc. cit.*, save that the median T-shaped portion is narrower and finely pointed posteriorly.

*Measurements*.—Length of carapace, 4.3 mm.; width, 4 mm. Total length, 11 mm.

♂ *Colour*.—As in ♀, but a little darker.

*Eyes and Chelicera*.—As in ♀.

*Legs*.—Longer than in ♀, and hairy. Metatarsus I scopulate over anterior  $\frac{1}{2}$ , and bearing no spines on under surface.

*Pedipalps*.—Tibia bearing an anterior dorsal projection, broad basally, and tapering fairly rapidly anteriorly over dorsal surface of tarsus. Tarsal organ furnished with a long flagellum arising from the inner apical portion, curving across anteriorly, slightly bifid at outer



curve, and continuing down the outer side of the tarsus, and reaching in a filiform condition to the apex of the tarsus again. On outer side of tarsal organ is a stouter styliform process, tapering and curved apically.

*Measurements.*—Length of carapace, 3.6 mm.; breadth, 3.2 mm. Total length, 8 mm.

*Record of New Localities.*—2 ♀♀ (No. 5130). Pocaltsdorp, George Div. (Miss L. Leipoldt, 1899.)

These specimens agree in size, colour, markings, and vulva with Pocock's types. The chelicera, however, have 3 very distinct teeth, not 2 only, as stated in description, *loc. cit.* Further, there appears to be a slight discrepancy in the description of the legs. Of the statements "tarsi and protarsi of the anterior pairs lightly scopulate beneath," as given in the description, and "tibia and protarsus of first and second leg without scopula," as given in the key to the species, the former is more correct according to the type specimens. The tibiae are not scopulate, and the metatarsi bear a fairly dense clothing of hair on the under surface which, though long, is scopulate in appearance; the tarsi are slightly more densely clothed: the tarsal claws bear 2 small basal teeth in addition to the 2 median larger ones. Also the median, dark, raised portion of the vulva is pointed posteriorly, as mentioned in the description; from the figure given, it would appear that the reverse was the case.

#### PLATYOIDES PICTUS, Poc. (Fig. 2.)

1902. *P. pictus*. Pocock in A.M.N.H. (7), vol. x, p. 19, pl. iii, fig. 8.

*Specimens.*—2 ♀♀ types, Br. Museum. Teafountain, Grahams-town. (Miss Leppan, 1900.)

*Colour.*—Carapace, chelicera, and legs dark orange brown; sternum and coxae slightly lighter, sternum dark-edged. Abdomen dull testaceous, with dark lateral bands, and a dorsal median dark band bifurcating over anterior  $\frac{2}{3}$ .

*Eyes.*—Anterior laterals  $1\frac{1}{2}$  to less than twice a median's diameter from the latter. Posterior laterals  $1\frac{1}{2}$ –2 diameters from the anterior laterals.

*Chelicera.*—Superior border with 2 teeth.

*Legs.*—Smooth; metatarsus I scopulate densely to base, and spineless on under surface.

*Vulva.*—As in fig. 8, *loc. cit.*; also fig. 2.

*Measurements.*—Length of carapace, 3.4 mm.; breadth, 3 mm. Total length, 8 mm.

*Record of New Localities* :—

Caledon, 1 ♀ (150,066). Dr. W. F. Purcell, July 1910.

Addo Bush, Port Elizabeth, 1 ♀ (B 4656). J. Drury, July 1919.

River Zonde Ende (Caledon), 1 ♀ (B 5571). R. Tucker, December 1920.

PLATYOIDES PUSILLUS, Poc.

1898. *P. pusillus*. Poc. in A.M.N.H. (7), vol. ii, p. 220, pl. viii, fig. 13.

“*Colour.*—Carapace yellowish ochre brown, with narrow blackish rim; legs practically a uniform ochre yellow, the femora not noticeably paler than the remaining segments; abdomen testaceous above, clouded with fuscous at the sides.

“*Carapace.*—About as wide as long, a little shorter than patella and tibia of first leg; eyes of anterior line subequally spaced, the medians about their own diameter from the laterals.

“*Legs* as in *laterigradus*, but with the setae more rigid, those on the lower side of the tibiae and protarsi of the first converted into spines protarsi and tarsi of the first and second without scopulate hairs.

“*Vulva* as in pl. viii, fig. 13.

“*Measurements in Millimetres.*—Total length, 7; length and width of carapace, 2.3 mm.

“*Locality.*—Estcourt, Natal, 4000 ft. (G. A. K. Marshall.)”

PLATYOIDES PUSILLIFORMIS, n. sp. (Fig. 3.)

*Specimens.*—1 ♀ and jv. (No. 14,695 type). Kentani. (H. P. Abernethy, 1909.)

This specimen is allied to *P. pusillus*, Poc., in size, proportions, and type of vulva. It is separated, however, on account of difference from the vulva of *pusillus* as depicted in fig. 13, pl. viii, A.M.N.H., vol. ii, 1898; also on the scopulation of the anterior legs and dentition of the chelicera.

*Colour.*—Carapace and chelicera dark golden brown; the former dark-edged, and with an infuscated band running from the side of the ocular area to the fovea; the 1st pair of legs the same colour as the carapace, the posterior legs lighter. Abdomen testaceous, with lateral infuscated bands projecting inwards anteriorly and medially; the anterior projections fusing.

*Carapace*.—Breadth equal to the length; subequal to patella and tibia I.

*Eyes*.—Anterior medians about a diameter apart, and very slightly nearer to each other than to the laterals. Posterior medians about  $1\frac{1}{2}$  diameters apart, and about  $2\frac{1}{2}$  diameters from the laterals.

*Chelicera*.—Bearing 2 stout teeth as in *bidentifer*, Purc.; these teeth are obvious even in the very juvenile specimen.

*Legs*.—Tarsus I scopulate below; metatarsus with a few scopular hairs anteriorly, and spiniform hairs over the entire surface, those basally on the under surface appearing as slender spines; the remainder of the leg with similar hairs or weak spines. Tarsus II bearing a few scopular hairs; metatarsus II without. All legs bearing weak spines, especially on the femora.

*Vulva*.—As in fig. 3.

*Measurements*.—Carapace, length and breadth, 2.25 mm. Total length, 6 mm.

#### PLATYOIDES QUINQUEDENTATUS, Purc.

1907. *P. quinquedentatus*. Purcell in A.M.N.H. (7), vol. xx, pl. xiii, fig. 3.

*Specimens*.—2 ♀♀ and jv. (7889 types). Swellendam. (H. A. Fry, 1900.)

*Colour*.—Carapace and chelicera very dark, almost black, reddish brown; legs somewhat lighter and partially infuscated. Abdomen black dorsally and laterally, dull testaceous on under surface, and with 2 indistinct dorsal longitudinal testaceous stripes.

*Eyes*.—Anterior laterals just over twice a median's diameter from the latter. Posterior laterals about  $1\frac{1}{2}$  diameters apart.

*Legs*.—Moderately hairy; metatarsus I scopulate almost to base, and bearing no spines on under surface.

*Chelicera*.—Superior border with 5 teeth.

*Vulva*.—As in fig. 3, *loc. cit.*

*Measurements*.—Length of carapace, 5 mm.; breadth, 4.3 mm. Total length, 12.5 mm.

*Record of New Locality*.—1 ♀ (B 4612). Zonder End Mts. (K. H. Barnard, January 1919.)

#### PLATYOIDES SEPARATA, Cambr.

1907. *P. separata*. Cambridge in P.Z.S., 1907, p. 819, pl. 1, figs. 7-12.

“ Adult female, length  $4\frac{1}{4}$  lines.



“*Cephalothorax* and abdomen uniformly flattened; the former is of a dark, rather bright, yellow-brown colour; the latter, on the upper side, is of a mouse-coloured black above and on the sides, the under side being of a dull greyish white. The clypeus is almost obsolete. The legs 4, 2, 1, 3 are not very strong, the three basal joints pale yellow, the rest more or less suffused with yellowish brown; and there is a thin scopula of racquet-shaped hairs on the tarsi and part of the metatarsi of the first pair. The coxae and genual joints of the first pair are of moderate length, nearly equal together to that of the femoral joint. The cephalothorax is a little broader than long, and broadest behind, truncated before and somewhat truncate behind.

“*Eyes* small, not greatly unequal; the hind central pair smallest; placed in two transverse rows occupying the greater part of the width of the caput; the anterior row is straight, the posterior longest, and has the convexity of its very slight curve directed backwards. The interval between the two central eyes of each row is less than that which separates them from the laterals.

“*Falces* strong, tumid in form, divergent and porrected. Fang long, not very strong, regularly curved and tapering. Colour similar to that of the cephalothorax.

“*Maxillae* long, enlarged at their base, strongly constricted at the middle, enlarged again at their extremity, where they are obliquely truncated on the inner side; colour yellow brown.

“*Labium* nearly as broad as high, with a transverse suture below the middle, the apex rounded; colour of a darker hue than the maxillae.

“*Sternum* of a nearly regular roundish oval; colour yellow, tinged with orange.

“*Spinners* small, short and compact. Genital aperture of very distinct and characteristic form.

“A single adult ♀ from East London. (Mr. R. Hancock.)”

#### PLATYOIDES SIMONI, Cambr.

1907. *P. simoni*. Cambr. in P.Z.S., 1907, p. 820, pl. 1, figs. 13-17.

“Adult male, length 2 lines.

“Though resembling it in general form and other essential characters, the small comparative size of this spider will distinguish it at once from *P. separata*. The eyes also are more closely grouped together and rather larger.

“The *cephalothorax* is pale dull yellow brown, the normal grooves

and indentations indicated by darker lines. The legs are pale dull yellowish; the femora, tibiae, and metatarsi suffused with brownish.

“The *abdomen*, of a short oval form and dark, yellowish-brown hue, has a broad central longitudinal band or area of a pale colour, bearing a longitudinal dark central tapering stripe, with some indistinct lateral sloping or oblique dark lines on each side of its hinder extremity, and representing the normal angular bars or chevrons.

“The *palpi* are short; the radial shorter than the cubital joint, with a short, obliquely truncated apophysis at its extremity on the inner side. The digital joint is of moderate size and short oval form; the palpal organs well developed and complex, with spiny processes.

‘*Hab.*—Cape Colony, South Africa. (Mr. R. Hancock.)’

## SECOND SUB-FAMILY.

### DRASSODINAE.

#### *Key to Groups.*

- (2). 1. Six eyes, subcontiguous and resembling Dysderidae . . . *Lygrommateae.*
- (1). 2. Eight eyes arranged in two series.
- (12). 3. Labium longer than wide and considerably surpassing half the length of the maxillae.
- (7). 4. Inferior margin of chelicera carinate or lobate.
- (6). 5. Inferior margin of chelicera with sharp, weakly dentate keel, median stria more or less long . . . . . *Gnaphoseae.*
- (5). 6. Inferior margin of chelicera armed with 3 contiguous broad and obtuse teeth or lobes, thoracic stria minute and punctiform . . . *Laroneae.*
- (4). 7. Inferior margin of chelicera muticous or bidentate.
- (9). 8. Maxillae long and strongly impressed; inner and often outer margins carinate. Labium very long, often reaching inner apices of maxillae. Sternum strongly narrowed anteriorly and extending beyond the anterior coxae . . . . . *Lamponeae.*
- (8). 9. Maxillae transversely impressed, inner margin not or scarcely keeled, labium not or scarcely extending beyond upper third of maxillae.
- (11). 10. Maxillae nearly erect, emarginate on exterior behind the sub-basal insertion of trochanters. Cheliceral margins long and oblique, superior armed with 3 unequal teeth of which the central is the largest, and the inferior with 2 teeth . . . . . *Drassodeae.*
- (10). 11. Maxillae strongly curved, insertion of trochanter submedian. Superior margin of chelicera often muticous, keeled, short and subtransverse; inferior margin indistinct muticous or with 1 minute tooth. *Echemeae.*
- (3). 12. Labium not much longer than wide and only slightly surpassing half the length of the maxillae.
- 16). 13. Inferior spinners longest; lateral, remote, and bearing long fusules apically, and dentiform fusules on inner apex.

- (15). 14. Tarsal claws muticous and densely fasciculate . . . . . *Theumeae*.  
 (14). 15. Tarsal claws not fasciculate but pectinate . . . . . *Anagraphidae*.  
 (13). 16. Spinners normal, inferiors not much larger than superiors.  
 (19). 17. Tarsi not fasciculate, claws dentate.  
 18. Both rows of eyes recurved, inferior margin of chelicera furnished with  
 more than 2 teeth . . . . . *Anagrina*.  
 (17). 19. Tarsi fasciculate, claws muticous.  
 20. Both rows of eyes practically straight. Inferior margin of chelicera with  
 2 granuliform teeth . . . . . *Tricongeae*.

Of these groups, 5 are known in South Africa, namely, *Theumeae*, *Anagraphidae*, *Drassodeae*, *Echemeae*, and *Gnaphoseae*. *Laroneae* occurs in South Africa, but not in the region under consideration.

The remaining groups, *Lygrommateae*, *Lamponeae*, *Anagrina*, and *Tricongeae*, are not known to occur in Africa at all.

### GNAPHOSEAE.

#### *Key to Genera.*

- (3). 1. Base of median spinners tuberculate.  
 2. Eyes subequal, posterior row not narrower than anterior row; inferior  
 spinners with 5-7 tubules . . . . . *Callilepis*.  
 (1). 3. Base of median spinners not tuberculate.  
 (7). 4. Clypeus less than the diameter of an anterior lateral eye.  
 (6). 5. Lateral eyes much larger than the medians. Posterior row wider than  
 the anterior row and straight to slightly procurved. Spinners with  
 4 apical tubules . . . . . *Trephopoda*.  
 (5). 6. Lateral eyes not much larger than the medians. Posterior row wider  
 than the anterior, and moderately recurved. Mouth-parts very large  
 and broad. Spinners with 2-3 tubules . . . . . *Upognampa*.  
 (4). 7. Clypeus exceeding the diameter of an anterior lateral eye.  
 (17). 8. Posterior row of eyes wider than anterior row.  
 (11). 9. Lateral eyes much larger than the medians.  
 10. Ocular area wider than long; posterior medians small (but not almost  
 obsolete) . . . . . *Gnaphosoides*.  
 (9). 11. Lateral eyes only slightly larger than the medians.  
 (14). 12. Posterior row of eyes almost straight.  
 13. Front metatarsi considerably shorter than the tarsi; spinners with  
 2 fusules . . . . . *Amusia*.  
 (12). 14. Posterior row of eyes recurved.  
 (16). 15. Posterior row moderately recurved, spinners with 4-5 tubules.  
*Aneplasa*.  
 (15). 16. Posterior row strongly recurved; spinners with 10-11 tubules.  
*Gnaphosa*.  
 (8). 17. Posterior row of eyes narrower than the anterior row.  
 18. Lateral eyes very much larger than the medians; posterior row strongly  
 recurved. Spinners with 2-3 tubules . . . . . *Asemesthes*.

Of these genera, *Gnaphosoides* alone is not found in South Africa.



GEN. CALLILEPIS, Westr.

Key to Species.

- (10). 1. Posterior median eyes smaller than the laterals.  
 (8). 2. Posterior row of eyes straight to faintly recurved.  
 (6). 3. Carapace equal in length to tarsus and metatarsus IV.  
 (5). 4. Carapace equal in length to metatarsus and  $\frac{1}{2}$  tarsus I; inferior spinners bearing 4 apical tubules . . . . . *tubalus*.  
 (4). 5. Carapace subequal in length to metatarsus and tarsus I; spinners with 5 apical tubules . . . . . *varius*.  
 (3). 6. Carapace equal in length to tarsus and  $\frac{1}{2}$  metatarsus IV.  
 7. Length of carapace slightly less than tibia and metatarsus II: spinners with 4 apical tubules . . . . . *frenata*.  
 (2). 8. Posterior row of eyes well recurved.  
 9. Carapace slightly less in length than metatarsus and tarsus I and equal to metatarsus IV. Spinners with 2-3 tubules . . . . . *marginalis*.  
 (1). 10. Posterior median eyes larger than the laterals.  
 11. Carapace slightly greater in length than metatarsus and tarsus I and equal to metatarsus and  $\frac{1}{2}$ - $\frac{2}{3}$  tarsus IV. Spinners with 5-6 tubules. . . . . *auris*.

CALLILEPIS AURIS, n. sp. (Fig. 4, A and B.)

Specimens:—

- 1 ♂ and 3 ♀ (12,660 types). Montagu Baths. (Dr. W. F. Purell, November 1902.)  
 1 ♀ (11,917). Palmietfontein, near Hanover. (S. C. Schreiner, December 1901 to February 1902.)  
 1 ♂ (3946). Beaufort West. (F. Purell, September 1896).

♀ *Colour*.—Carapace medium brown, dark-edged, and with slight radiate infuscations from the fovea; median portion between eyes and fovea clear. Legs similar in colour to the carapace, darker distally. Abdomen dull cinereous in colour dorsally, with numerous indistinct testaceous spots posteriorly; also with a lighter patch and 2 dark spots above the spinners; under surface slightly paler down the centre. Sternum medium brown, dark-edged.

*Carapace*.—Length slightly exceeds metatarsus and tarsus I; equal to tibia, metatarsus, and about  $\frac{1}{3}$  tarsus II, and to metatarsus and  $\frac{1}{2}$ - $\frac{2}{3}$  tarsus IV.

*Eyes*.—Anterior row seen from in front procurved; eyes approximately equal in size, medians less than a diameter apart, and close to the laterals. Posterior row scarcely at all wider than the anterior row and straight to slightly recurved; medians subangular, oblique, and close together; slightly farther from the laterals which are subequal to them, and also subequal to the anterior laterals, from

which they are about  $1\frac{1}{2}$  diameters distant. Clypeus exceeding the diameter of an anterior lateral eye.

*Legs.*—All the tarsi scopulated and bearing down the centre a line of bristly hairs; the scopulation decreases and the band of hairs broadens successively in the posterior legs; metatarsus I scopulate anteriorly and bearing 2 submedian spines, and sometimes 1–2 anterior median spines on the under surface. Metatarsus II also scopulated anteriorly and bearing 1–2 apical, 2 anterior median, and 2 submedian spines on the under surface (on one side the 2nd metatarsus is abnormal, being densely clothed with spines which are aggregated mainly upon the inner surface and basal under surface). Tibiae I and II as in *C. varius*. Metatarsi III and IV without scopulae; posterior legs well spined.

*Sternum.*—As in *C. varius*.

*Spinners.*—Inferior spinners with 5–6 apical fusules; median spinners with the tuberculate base characteristic of *Callilepis*.

*Vulva.*—As in fig. 4A.

*Measurements.*—Length of carapace, 4.4 mm.; breadth, 3.2 mm. Total length, 10 mm.

♂ *Colour.*—As in ♀; markings on abdomen slightly more distinct.

*Carapace.*—Equal in length to metatarsus and less than  $\frac{1}{2}$  the tarsus of 1st leg, and to tibia and  $\frac{3}{4}$  metatarsus of 2nd leg; also equal to metatarsus IV.

*Eyes.*—Resembling those of the ♀; anterior medians subequal to the laterals. Posterior row nearly straight; posterior laterals less than  $1\frac{1}{2}$  diameters from the anterior laterals. Clypeus  $1\frac{1}{2}$  times the diameter of an anterior lateral eye.

*Legs.*—Longer than in the ♀. Tarsus I scopulate; metatarsus with 1 or 2 scopular hairs anteriorly and 1 apical, 1 anterior median, and 2 sub-basal spines on the under surface; 2nd leg similar. Tarsus III bearing scopular hairs and bristles on the under surface. Tarsus IV with very few scopular hairs and numerous bristles; posterior legs heavily spined.

*Sternum.*—Slightly more circular than the ♀; width equal to the length.

*Spinners.*—As in ♀.

*Pedipalps.*—Tarsus long and tapering; tarsal organ as in fig. 4B; tibia short, bearing 2 blunt soft anterior projections and a broad curved tapering spur apically on the dorsal surface.

*Measurements.*—Length of carapace, 4.6 mm.; breadth, 3 mm. Total length, 10 mm.

1 ♂, B 5002, from Otjituo, Northern S.W. African Prot. (R. Tucker, January 1920), agrees in palpal organ and measurements with the ♂ of this species; it varies, however, in that the anterior medians are slightly larger than the laterals, whilst the posterior row is faintly recurved and the laterals at least  $1\frac{1}{2}$  diameters from anterior laterals; the clypeus is over  $1\frac{1}{2}$  times, but under twice, the diameter of a lateral eye. The legs are relatively shorter, since the carapace measurement equals the metatarsus and  $\frac{2}{3}$  tarsus of 1st leg and is subequal to tibia and meta. II and equal to metatarsus and  $\frac{1}{3}$  tarsus IV. Unless the ♀ should prove the contrary, the specimen is classed as *C. auris*.

1 ♀, B 4785. Ashton. (R. Tucker, November 1919.) In this specimen the vulva has a very dark, raised, and conspicuous border, whilst the pattern of the enclosed depression is almost obliterated; otherwise as in type.

#### CALLILEPIS FRENATA, Purc.

*C. frenata*. Purcell in Schultze, Forschungsreise in S. Afrika, vol. i, p. 241, pl. xi, fig. 28.

*Specimens*.—1 ♀ (150,606 *ex typis*). Kamaggas, Little Namaqualand. (L. Schultze, July–August 1904.)

*Colour*.—Carapace medium brown, lighter from ocular area to median stria; dark-edged, and with slight radial infuscation from stria, especially to base of ocular area. Abdomen brownish black; legs yellowish brown, distal segments reddish.

*Carapace*.—Length slightly less than tibia and metatarsus II, and equal to metatarsus and just over tarsus IV.

*Eyes*.—Front row procurved, medians subequal to the laterals. Posterior row straight, laterals equal to the anterior laterals, and medians slightly smaller than the laterals.

*Legs*.—Anterior tarsi well scopulate; metatarsus I with 1 inner and 2 outer spines on the under surface; anterior metatarsi scopulate, but not to base. Tarsi strongly fasciculate.

*Vulva*.—Pl. xi, fig. 28, *loc. cit.*

*Measurements*.—Length of carapace, 2.8 mm. Total length, 6.8 mm.

#### CALLILEPIS MARGINALIS, n. sp. (Fig. 5.)

*Specimens*.—4 ♀♀ (B 4675). Pemba, N. Rhodesia. (Fr. Cassett, August 1919.)

*Colour*.—Carapace yellowish brown, slightly dark-rimmed laterally, with a broad wavy dark line down the centre of each side area.



Abdomen dull testaceous dorsally, with a faint dark irregular median band, a broken lateral band down each side, and numerous dark flecks on the rest of the surface; under surface pale testaceous; legs the same colour as the carapace.

*Carapace*.—Broad oval posteriorly, sharply produced anteriorly to rectangle, in which lies the ocular area. A little shorter than metatarsus and tarsus I, slightly shorter than tibia and metatarsus II, and equal to metatarsus IV; width equal to metatarsus and a little over  $\frac{1}{2}$  tarsus 1st leg.

*Eyes*.—From above, anterior row moderately procurved; medians round, subequal to laterals, slightly closer to them than to each other. Posterior row no wider than anterior row and equally procurved; medians white, subangular, inclined outwards, less than a diameter apart, and about the same distance from the laterals, which are a little larger and subequal to the anterior laterals, from which they are slightly less than a diameter distant.

*Chelicera*.—Superior border with large apical tooth flanked on outer side by a smaller contiguous tooth.

*Legs*.—Tarsus I faintly scopulate and with scattered bristle-like hairs distally on the under surface; metatarsus with a very few scopular hairs distally and bearing 2 apical and 2 submedian spines on the under surface; 2nd leg similar, but with an additional spine between the 2 pairs and a median spine on the inner surface. Tarsus III scopulate, but with very numerous bristles on the under surface. Tarsus IV less scopulate; metatarsi III and IV heavily spined. All tibiae well spined, posterior ones more strongly; tarsi with slight fascicles; tarsal claws strongly dentate.

*Spinners*.—Inferior spinners with 2-3 tubules; median spinners set on tuberculate bases.

*Vulva*.—As in fig. 5; prominently bordered; in some specimens the anterior dark tongue is not nearly so conspicuous, and the posterior dark portions are faint.

*Measurements*.—Length of carapace, 2.5 mm.; breadth, 2 mm. Total length, 7.5 mm.

CALLILEPIS TUBALUS, n. sp. (Fig. 6.)

*Specimen*.—1 ♂ (B 5507 type). Windhuk, S.W. Afr. Prot. (R. W. Tucker, January 1920.)

*Colour*.—Carapace light brown, dark-edged, with infuscations radiating from fovea, the one to the posterior lateral eyes being

almost band-like. Legs pale brown, darker distally. Abdomen dull testaceous, faintly grained with black, and with a double line of distinct black spots down the centre of the dorsal surface; small dark spot laterally above the spinners. Sternum light brown, dark-edged.

*Carapace*.—Equal in length to metatarsus and  $\frac{1}{2}$  tarsus I, to tibia and  $\frac{4}{5}$  metatarsus II, and subequal to tarsus and metatarsus IV.

*Eyes*.—Anterior row from in front faintly procurved, laterals very close to medians and subequal to them. Clypeus equal to diameter of anterior lateral eye. Posterior row straight, scarcely wider than anterior row; medians angular, white, and close together, nearly touching laterals, which are larger, subequal to anterior laterals, and nearly their own diameter from them.

*Legs*.—Anterior tarsi long and moderately scopulate; posterior tarsi short and sparsely scopulate; posterior metatarsi more heavily spined than anterior.

*Spinners*.—Superior spinners with 4 apical tubules.

*Pedipalps*.—Tarsal organ as in fig. 6; tarsus bearing a spine-like projection dorsobasally which curves upwards and over towards distal surface of tarsus, broad basally, and tapering and curved distally. Tibia bearing a broad projection medially, and covering the base of the tarsal projection; also a small finger-like projection laterally.

*Measurements*.—Length of carapace, nearly 3 mm.; breadth, 2.2 mm. Total length, 6 mm.

This specimen may prove to be the ♂ of *C. varius*, n. sp., of which 2 ♀♀ have been taken at the same period at Windhuk; until ♂ and ♀ have been taken together, or it has been established that there is only the one species of *Callilepis* at Windhuk, I have described the ♂ under a new name which can be merged with *varius* if found necessary.

#### CALLILEPIS VARIUS, n. sp. (Fig. 7.)

*Specimens* :—

1 ♀ (B 3726 type). Junction Marico and Crocodile Rivers, N.W. Transvaal. (R. W. Tucker, January–February 1918.)

1 ♀ (12,510). Umtali commonage, S. Rhodesia. (D. L. Patrick, November 1901.)

1 ♀ (B 5504). Windhuk, S.W. Africa. (R. Tucker, January 1920.)

1 ♀ (B 5680). Windhuk, S.W. Africa. (R. Tucker, February 1920.)

*Colour*.—Carapace medium brown with a dark line, irregular, and

broadening posteriorly, reaching from each posterior lateral eye to the level of the stria; sides and posterior portion of the carapace infuscated; border dark. Abdomen dark and olivaceous in colour and flecked with testaceous spots which become very numerous posteriorly; area above spinners clear testaceous and bearing 2 conspicuous black spots; under surface testaceous. Sternum pale brown and dark-rimmed; legs medium brown, becoming redder distally; patellae light.

*Carapace*.—Subequal in length to tarsus and metatarsus I, equal to tibia and metatarsus II, and equal to tarsus and metatarsus IV; width equal to the metatarsus and  $\frac{3}{4}$  tarsus of the 2nd leg.

*Eyes*.—Seen from above, both rows appear straight to slightly recurved; posterior row slightly wider. Seen from in front, anterior row procurved; medians subequal to the laterals, which are distant their own diameter from the margin of the carapace. Posterior laterals subequal to the anterior laterals; posterior medians subangular and a little smaller than the laterals. Median ocular area rectangular and longer than wide.

*Chelicera*.—Keel on the inner margin strong, and deeply curved in the centre. Superior margin with a strong apical tooth.

*Sternum*.—Greatest width subequal to the length.

*Legs*.—Tarsus I spineless, and bearing club-shaped scopular hairs which are sparse down the centre and at the base; also with a few bristles and fascicular hairs distally; metatarsus with no scopular hairs, but with spiniform hairs apically, and 2 spines basally on the under surface; tibia spineless. Tarsus II similar to I, fascicular hairs denser; metatarsus with 1 apical, 1 median, and 2 basal spines on the under surface; tibia with 1 apical, 2 median, and 1 basal spines on the under surface. Tarsus III bearing bristles in addition to scopular hairs; metatarsus strongly spined; tibia with 2 apical, 2 median, and 2 basal spines on the under surface. Tarsus IV bristles short, and scopular hairs sparse; metatarsus with 5–6 spines on the distal portion of the under surface; tibia as in 3rd leg.

*Spinners*.—Inferior spinners with 5 fusules; median spinners raised on a tuberculate base.

*Vulva*.—As in fig. 7; more clearly seen in specimen 12,510.

*Measurements*.—Carapace: length, 3.5 mm.; breadth, 2.8 mm. Total length, 8.8 mm.

Specimen from Umtali differs slightly in being lighter in colour, and in bearing scopular hairs anteriorly, and 2 apical, 2 ant. median, and 2 submedian spines on under surface, and 1 median spine on inner



surface of metatarsus. Tuberculate base of spinners is hidden in this specimen.

TREPHOPODA, n. gen.

Cephalothorax short, oval, and produced anteriorly; slightly flattened; thoracic stria short and inconspicuous. Anterior row of eyes seen from in front strongly procurved, eyes close together, and the laterals much larger than the medians, which are very small and placed with their centres approximately on a line tangential to the upper borders of the laterals. Clypeus very narrow, anterior laterals almost touching the border of the earapae. Posterior row of eyes wider than the anterior row and straight to slightly procurved; laterals as large as the anterior laterals, and much larger than the posterior medians, which are subangular and very slightly nearer to each other than to the laterals.

Chelicera keeled on the inferior margin, and bearing an inner apical tooth on the superior margin.

Labium parallel-sided basally, tapering slightly anteriorly, and reaching nearly to the white tips of the maxillae, which are inclined inwards and furnished with elongated, slightly swollen bases.

Legs short and stout, especially the tarsal and metatarsal joints; anterior tarsi slightly swollen centrally; anterior metatarsi subequal to tarsi; well spined. Anterior tarsi scopulate, and tarsal claws strongly dentate; posterior tarsi not scopulate, and tarsal claws long and muticous. All tarsi bearing slight fasciules. Inferior spinners bearing at least 4 tubules; base of median spinners not tuberculate.

TREPHOPODA HANOVERIA, n. sp. (Fig. 8.)

*Specimens*.—2 ♀♀ (11,974 types). Eierfontein, near Hanover. (S. C. Sehreiner, 1902.)

*Colour*.—Cephalothorax light brown, ocular portion darker, lateral margins infuscated; surface when dry covered with pale appressed pubescence. Legs similar in colour to the carapace. Abdomen testaceous dorsally and bearing no pattern. Sternum slightly dark-edged.

*Carapace*.—Length equal to that of patella, tibia, and metatarsus I, and slightly greater than tibia, metatarsus, and tarsus I; also slightly exceeding tibia and metatarsus of 4th leg.

*Eyes* and clypeus as in generic description; median ocular area longer than broad and slightly wider posteriorly.

*Legs.*—In order 4, 1, 2, 3. Tarsus I well scopulated; metatarsus scopulated anteriorly and bearing 2 anterior and 2 sub-basal spines on the under surface; metatarsus subequal to the tarsus. Tibia with 2 apical spines on the under surface; 2nd leg similar; metatarsus with fewer scopular hairs, and tibia with an additional anterior spine on the inner side of the under surface. Tarsus III with bristles and a few scopular hairs on the under surface; metatarsus and tibia strongly spined; 4th leg similar, but with bristles only on the under surface; metatarsus also longer than the tarsus. Anterior claw with a single row of 6 stout teeth; posterior claws long and muticous.

*Abdomen.*—Posterior dorsal portion is slightly produced into a blunt projection, defined by constrictions at the base, and bearing the anal tubercle apically.

*Spinners.*—Inferior spinners stout and cylindrical; apical tubules retracted, but 4 apparently present; median spinners small and slender, bases not tuberculate. Superior spinners slightly stouter, but smaller than the inferior spinners.

*Vulva.*—As in fig. 8.

*Measurements.*—Length of carapace, 2.6 mm. Total length, 6 mm.

#### UPOGNAMPA, n. gen.

Cephalothorax of ♀ long, oval, slightly narrower anteriorly; surface uniformly convex, stria short and posterior in position. Anterior row of eyes seen from in front procurved; medians smaller than the laterals and closer to them than to each other. Clypeus less in depth than the diameter of an anterior lateral eye. Posterior row of eyes wider than the anterior row, and moderately recurved; medians smaller than the laterals; laterals subequal to the anterior laterals.

Inferior border of chelicera keeled; superior border bearing a stout tooth.

Mouth-parts very large, total width greater than the width of the sternum. Labium narrowing anteriorly and reaching almost to the inner apices of the maxillae; the latter are inclined inwards almost to the point of touching, and are narrow posteriorly and anteriorly, but swell into a prominent and regular curve on the outer border; this, with the broad transverse depression, gives the maxillae a characteristic appearance, despite a similarity to those of *Callilepis*. The sternum is broad anteriorly, but not produced. The legs are short and stout, but less so than in *Trephopoda*; anterior metatarsi shorter than the tarsi; the tibiae are longer and stouter. All the

tarsi are scopulate, and bear a slight fascicle; the tarsal claws are dentate.

The inferior spinners bear 2-3 apical fusules, and the median spinners have non-tuberculate bases.

The legs of the ♂ are slightly longer and more slender. Patella and tibia of pedipalp are very short; the tibia bears a short but curved and sometimes stout projection on the outer side; the tarsus is oval and tapering. The eyes are respectively more strongly pro- and re-curved than in the ♀, and the lateral eyes are larger; also the posterior row is considerably wider relatively to the anterior row than in the ♀.

#### Key to Species.

- (4). 1. Length of carapace less than length of tibia, metatarsus, and tarsus of 1st leg.  
 (3). 2. Metatarsus I with 1 anterior and 1 median spine on under surface. *lineatipes*.  
 (2). 3. Metatarsus I with 2 anterior and 2 submedian spines on under surface. *aplanita*.  
 (1). 4. Length of carapace equal to or greater than tibia, metatarsus, and tarsus I.  
 (8). 5. Carapace equal in length to tibia and metatarsus IV.  
 (7). 6. Metatarsus I with 1 submedian spine on the under surface. *parvipalpa*.  
 (6). 7. Metatarsus I with 2 anterior and 1 median spines on under surface. *biamenta*.  
 (5). 8. Carapace subequal in length to tibia, metatarsus, and tarsus IV.  
 9. Metatarsus I with 2 anterior and 2 submedian spines. *kannemeyeri*.

#### UPOGNAMPA APLANITA, n. sp. (Fig. 9.)

*Specimens*.—1 ♀ (13,872 type). Bergvleit, Cape Flats. (Dr. W. F. Purcell, December 1895.)

*Colour*.—Carapace medium brown, infuscated laterally and in the region of the stria; legs a little darker and more olivaceous in colour, except for the tarsi, which are orange red in colour. Abdomen testaceous, with somewhat olivaceous infuscation, especially on central anterior dorsal surface. Sternum, coxae, etc., the same colour as the legs; mouth-parts lighter and redder.

*Carapace*.—Length slightly less than the tibia, metatarsus, and tarsus of 1st leg, and equal to tibia and metatarsus IV.

*Eyes*.—As in *lineatipes*.

*Legs*.—Tarsus I lightly scopulate; metatarsus with a few scopular hairs anteriorly and 2 apical and 2 submedian spines; length of metatarsus a little over  $\frac{1}{2}$  the tarsus; 2nd leg similar; legs III and IV as in *lineatipes*.



*Spinners.*—Tubules retracted and indeterminable.

*Vulva.*—As in fig. 9.

*Measurements.*—Length of carapace, 2 mm. Total length, 5.5 mm.

UPOGNAMPA BIAMENTA, n. sp. (Fig. 10.)

*Specimens.*—1 ♀ (3364 type). Ashton, Robertson Div. (Dr. W. F. Purcell, November 1897.)

*Colour.*—Carapace light brown, slightly redder anteriorly, infuscated laterally and posteriorly, especially immediately anterior to the stria. Chelicera reddish brown; abdomen dull testaceous, infuscated posteriorly on the dorsal surface. Legs pale brown, moderately infuscated, with the exception of the metatarsi; sternum infuscated.

*Carapace.*—Subequal to patella, tibia, and metatarsus I, and slightly exceeding tibia and metatarsus IV.

*Eyes.*—As in *lineatipes*.

*Legs.*—Tarsus I scopulate; metatarsus with a few scopular hairs anteriorly, and with 2 anterior and 1 median spines on the under surface; 2nd leg similar, but with 2 median spines; tarsus III scopulate; metatarsus with numerous apical and 2 median spines; tarsus IV with fewer scopular hairs, and metatarsus with more numerous spines.

*Spinners.*—Inferior spinners with 2 apical fusules.

*Vulva.*—As in fig. 10.

*Measurements.*—Carapace, 1.7 mm. Total length, 3.8 mm.

UPOGNAMPA KANNEMEYERI, n. sp. (Fig. 11.)

*Specimens* :—

1 ♀ (B 258 type). Smithfield. (Dr. Kannemeyer.)

2 ♀♀ and ? ♂ (B 38). Smithfield. (Dr. Kannemeyer, December 1909.)

1 ♀ (8434). Dunbrody. (Rev. J. A. O'Neil.)

1 ♀ (Grahamstown Museum). Grahamstown. (J. Hewitt, September 1916).

*Colour.*—Medium to dark brown, redder anteriorly, and mottled posteriorly and laterally; legs and abdomen as in *lineatipes*, the latter with a short dark band anteriorly on the dorsal surface; sternum lighter than the carapace.

*Carapace*.—Equal in length to tibia, metatarsus, and tarsus I, and subequal to tibia, metatarsus, and tarsus IV.

*Eyes*.—Anterior row from in front well procurved; laterals much larger than the medians. Posterior row considerably wider than the anterior; otherwise as in *lineatipes*.

*Legs*.—Tarsus I densely scopulated; metatarsus with a few scopular hairs anteriorly, and bearing 2 anterior and 2 submedian spines; 2nd leg similar; legs otherwise as in *lineatipes*.

*Spinners*.—Apical tubules retracted and indeterminable.

*Vulva*.—As in fig. 11.

*Measurements*.—Carapace, 2.4 mm. Total length, 5.8 mm.

UPOGNAMPA LINEATIPES, Purc. (Fig. 12, A and B.)

1908. *Callilepis lineatipes*. Purc. in L. Schultze's Zool., Bd. i, vol. xiii, p. 242, pl. xi, fig. 29. ♀.

*Specimens* :—

♂, 2 ♀♀, and jv. (14,496 types). Poortjesfontein, near Hanover. (J. Neeser, 1905.)

1 ♀ (B 3420). Matroosberg Mts. (4000 ft.). (R. W. Tucker, December 1917.)

For other localities see below.

♀ *Colour*.—Carapace light to medium brown, tinged with red anteriorly; lateral margins slightly infuscated, surface clothed with sparse pubescence. Legs a little lighter than the carapace; femora infuscated and tarsi and metatarsi tinged with red. Abdomen dull testaceous, slightly infuscated, and with indistinct chevron-like markings posteriorly on the dorsal surface. Sternum the same colour as the carapace; mouth-parts and chelicera dark reddish brown.

*Carapace*.—Subequal to tibia, metatarsus, and tarsus I, and slightly exceeding tibia and metatarsus IV.

*Eyes*.—Anterior row seen from the front moderately procurved; medians slightly nearer to the laterals than to each other. Posterior row moderately recurved; medians oval, smaller than the laterals, and a little nearer to each other than to them. Clypeus less than the diameter of an anterior lateral eye.

*Legs*.—Tarsus I scopulate, metatarsus slightly scopulate anteriorly and bearing 1 anterior and 1 median spine on the inner side of the under surface; tibia stout and subequal in length to the metatarsus and tarsus; 2nd leg similar, but with fewer scopular hairs on

the metatarsus, and with the tibia relatively shorter. Tarsus III bearing scopular and bristle-like hairs; metatarsus and tibia well spined; 4th leg similar, tarsus bearing fewer scopular hairs.

*Spinners.*—Inferior spinners short, cylindrical, and bearing 2 apical tubules and a terminal fringe of plumose hairs; median spinners short and weak; superior spinners longer and stouter than the median spinners, but less so than the inferior. Ventral surface also bears a short transverse chitinous line, probably a tracheal opening anterior to the spinners.

*Vulva.*—As in fig. 12A.

♂ *Colour.*—Exactly as in ♀.

*Carapace.*—Length slightly less than tibia, metatarsus, and tarsus I, and just exceeding tibia and metatarsus IV.

*Eyes.*—As in generic description.

*Legs.*—Tarsus I clothed with fine scopular hairs on under surface; metatarsus with a few isolated scopular hairs and bearing 2 apical and 1 median inner spines on the under surface; tibia spineless; 2nd leg similar, metatarsus with 2 median spines. Tarsus III moderately scopulate, metatarsus and tibia bearing moderately long slender spines; 4th leg similar, tarsus with fewer scopular hairs. Legs moderately well clothed with pubescence.

*Pedipalps.*—Tibia, tarsus, and palpal organ as in fig. 12B.

*Measurements.*—Carapace: ♀ 2 mm. in length, ♂ 2 mm. Total length, ♀ 5 mm.; ♂ 4.4 mm.

The vulva depicted in fig. 12A seems to be identical with that figured by Purcell in L. Schultze's *Zool. S.W. Afr.*, Bd. xiii, pl. xi, fig. 29, as *Callilepis lineatipes*. As there is only the one type specimen of *lineatipes*, which is not available, direct comparison is impossible. The description, however, appears to fit in with that of *Upognampa*: that this is a distinct genus from *Callilepis* there seems little doubt. The eye formation is quite distinct and constant; the spinners are distinct, and the bases of the median spinners are non-tuberculate. Also the size is uniformly smaller than in *Callilepis*, and the coloration is lighter, both of which help to confirm the other differences. Hence, from description and figure, I conclude that *Callilepis lineatipes*, Purc., should be transferred to the genus *Upognampa*.

The following specimens are also recorded:—

- 2 ♀♀ (B 2979). Matroosberg Mts., 3500–3700 ft. (R. W. Tucker, January 1917.)  
 1 ♀ (8648). Plumstead Flats, C. Peninsula. (Dr. W. F. Purcell, December 1900.)



- 1 ♀ (8485). Plumstead Flats, C. Peninsula. (J. Faure, 1900.)  
4 ♀♀ (11,670). Stompneus, St. Helena Bay. (J. C. Goold,  
January 1902.)  
1 ♀ (B 1927). Matjesfontein. (Dr. W. F. P., November 1905.)  
2 ♀♀ (4313-4). Olyvenbosch Kraal, Clanwilliam. (C. L.  
Leipoldt, September 1898.)  
1 ♂ (12,434). Dunbrody. (Fr. O'Neil, January 1902.)  
♂ and ♀ (11,773), Hanover. (S. C. Cron. Schreiner, November  
1901.)  
2 ♂♂ (11,919 and 11,791). Hanover. (S. C. Cron. Schreiner,  
1901-2.)

UPOGNAMPA PARVIPALPA, n. sp. (Fig. 13.)

*Specimens* :—

- 1 ♂ (B 1928 type). Matjesfontein. (Dr. W. F. Purcell,  
November 1905.)  
1 ♂ (13,870). Hout Bay, Cape Peninsula. (Dr. W. F.  
Purcell, November 1901.)  
1 ♂ (6018). Table Mt. (Dr. W. F. Purcell, October 1899.)  
1 ♂ (11,548), Lourensford, Somerset West. (H. Hermann,  
December 1901.)

*Colour*.—Carapace reddish brown, becoming darker anteriorly and laterally. Legs medium brown, abdomen dull testaceous, slightly infuscated dorsally.

*Carapace*.—Length slightly exceeding tibia, metatarsus, and tarsus I, and equal to patella, tibia, and metatarsus I, and to tibia and metatarsus IV.

*Eyes*.—Anterior row lightly procurved; medians a little smaller than the laterals, which are not large, and somewhat nearer to them than to each other. Posterior row considerably wider and recurved; medians equal or subequal to the laterals, and approximately the same distance from them as from each other. Clypeus subequal to the diameter of an anterior lateral eye.

*Chelicera*.—Somewhat prominent in appearance.

*Maxillae*, etc., as in generic description.

*Legs*.—As in *lineatipes*.

*Pedipalps*.—Remarkable for their exceedingly small size; outer apical projection of tibia longer and more slender than in *lineatipes* (see fig. 12B).

*Palpal organ* as in fig. 13.

*Measurements.*—Length of carapace, 2 mm. Total length, 5 mm.

1 ♂ (B 5231). Table Mt. (S. Gilman, November 1920.) Darker and smaller than type.

GEN. AMUSIA, Tullgr.

AMUSIA CATARACTA, n. sp. (Fig. 14, A and B.)

*Specimens.*—1 ♂ and 5 ♀♀ (150,690 types). Howick Falls, Natal. (Dr. W. F. Purcell, September 1905.)

♀ *Colour.*—Carapace dull brown, darker towards the border, mottled towards the centre, and with a slight dark V anterior to the stria; abdomen light dusky brown, legs similar in colour to the carapace.

*Eyes.*—Anterior row procurved, medians less than a diameter apart, and close to the laterals, which are slightly larger. Posterior row a little wider than the anterior row and straight to slightly recurved; medians smaller than the laterals, a diameter apart and approximately the same distance from the laterals, which are about the same size as the anterior laterals, and distant a diameter from them. Median ocular area longer than wide and wider posteriorly. Clypeus equal to or exceeding the diameter of an anterior lateral eye.

*Labium.*—Much longer than broad, tapering anteriorly, and nearly reaching the inner apices of the maxillae; the latter are inclined inwards, somewhat broader, and slightly swollen basally.

*Legs.*—Tarsi I and II nearly twice the length of the metatarsi, slightly swollen basally on the ventral surface, and tapering anteriorly; tarsus III subequal to the metatarsus and only tapering slightly; tarsus IV shorter than the metatarsus and scarcely swollen or tapering. Tarsi I and II scopulate to the base, tarsi III and IV slightly scopulate laterally and distally. Metatarsus I with 2 apical and 2 basal spines on the under surface, and 1 anterior spine on the inner surface. Tibia with 2 apical spines on the under surface; 2nd leg similar, tibia with a median spine also. Legs III and IV well spined.

*Spinners.*—Bearing 2, occasionally 3, tubules distally.

*Vulva.*—As in fig. 14A.

♂ *Colour.*—Similar to ♀; carapace comparatively shorter and broader, and with more conspicuous pubescence.

*Eyes.*—Anterior row compact, eyes practically contiguous; slightly more procurved than in the ♀, laterals decidedly larger than the medians. Posterior row wider, slightly recurved, eyes equidistant;

medians subequal to the laterals. Median ocular area longer than wide, and wider posteriorly. Clypeus equal to or exceeding the diameter of an anterior lateral eye.

*Labium*, etc.—As in ♀.

*Legs*.—Tarsi I and II about  $1\frac{1}{2}$  times as long as the metatarsi; otherwise tarsi as in the ♀; metatarsus I bearing 2 apical and 1 basal spines, tibia with 2 apical and 1 median spines on the under surface in addition to lateral spines. Second leg similar, with an additional basal spine on the inner under surface. Fourth tarsal claws with 2 or 3 small median teeth; 3rd tarsal claws toothed as in 1st and 2nd legs; in the ♀ the 3rd tarsal claw resembles the 4th.

*Spinners*.—Tubules retracted and indeterminable.

*Pedipalps*.—Tibia smaller than the patella, and bearing a stout apical projection on the inner side and a longer, slenderer, 2-pronged projection on the outer side. Tarsus and palpal organ as in fig. 14B (cf. *U. lineatipes*).

*Measurements*.—Length of carapace, ♂ 1.8 mm., ♀ 2 mm. Total length, ♂ 4 mm., ♀ 5.1 mm.

#### ANEPLASA, n. gen.

Cephalothorax long, oval, produced anteriorly; moderately convex, thoracic stria short and posterior in position. Anterior row of eyes seen from in front procurved; from above straight to recurved; lateral eyes not large, median eyes subequal to the laterals. Posterior row a little wider than the anterior row, and recurved; laterals subequal to the anterior laterals; medians opaque, smaller, and nearer to each other than to the laterals. Clypeus equal to or exceeding the diameter of an anterior lateral eye. Maxillae slightly less tapering, and inclined inwards to a less degree than in *Asemesthes*. Legs strong and well spined; all tarsi well scopulate; tarsal claws with a uniseriate row of strong teeth. Inferior spinners bearing 4–5 apical tubules, and median spinners without tuberculate base.

Tibia of pedipalp in ♂ without curved apical process.

#### Key to Species.

- (4). 1. Length of carapace equal or subequal to length of metatarsus and tarsus IV.
- (3). 2. Posterior lateral eyes a diameter or over from the anterior laterals.  
*nigra*.
- (2). 3. Posterior lateral eyes  $1\frac{1}{2}$  or more diameters from the anterior laterals.  
*primaris*.



- (1). 4. Length of carapace equal to metatarsus and  $\frac{2}{3}$  or over of tarsus IV.  
 (7). 5. Length of carapace equal to tibia, metatarsus, and  $\frac{1}{2}$  tarsus I.  
 6. Vulva dark, with central ridge broadening anteriorly, and bordered by long oval depressions each bearing circular dark-rimmed portion anteriorly . . . . . *facies*.  
 (5). 7. Length of carapace equal to tibia, metatarsus, and  $\frac{1}{3}$  or less of tarsus I.  
 (11). 8. Posterior lateral eyes  $1\frac{1}{2}$  or more diameters from the anterior laterals.  
 (10). 9. Central portion of vulva standing out in strong relief to lateral cavities and terminating in incurved lateral projections . . . . . *sculpturata*.  
 (9). 10. Central portion of vulva broader, flatter, and not terminating in incurved raised projections . . . . . *balnearia*.  
 (8). 11. Posterior lateral eyes slightly over 1 diameter from the anterior laterals.  
 12. Length of carapace equal to tibia and  $\frac{5}{8}$  metatarsus I . . . . . *interrogationis*.

ANEPLASA BALNEARIA, n. sp. (Fig. 15.)

*Specimens* :—

3 ♀♀ (12,657 types). Montagu Baths. (Dr. W. F. Purcell, November 1902.)

1 ♀ and jv. (4173). Hex R. valley. (R. Treleaven, October 1898.)

1 ♀ (B 4788). Ashton. (R. Tucker, November 1919.)

1 ♀ (B 4743). Montagu. (R. Tucker, November 1919.)

*Colour*.—Carapace medium brown, dark-edged; a narrower band of prone white hairs down each side, partially obscuring the infuscated markings, which form a more inner darker band; median band lighter in colour, save for 2 leaf-like infuscations anterior to the stria. Legs similar in colour to the carapace and slightly infuscated; also clothed with appressed whitish hairs. Dorsal surface of abdomen with a median testaceous band down the entire length, broader anteriorly, and narrower and serrated or plumed posteriorly; outer edges dark; lateral border of abdomen dark, rest of surface mottled. Sternum slightly darker than the carapace.

*Eyes*.—Anterior row seen from above straight to slightly recurved, seen from in front procurved; eyes of medium size, medians slightly nearer to the laterals and subequal to them. Posterior row a little wider than the anterior row, moderately recurved, medians smaller than the laterals and nearer to each other. Laterals equal to the anterior laterals and at least 2 diameters from them. Clypeus about  $1\frac{1}{2}$  times the diameter of an anterior lateral.

*Legs*.—Tarsi I and II densely scopulated, III slightly less so, IV with only a few scopular hairs. Metatarsi I and II with scopular hairs anteriorly. Metatarsi I and II with 2 basal and 1 apical spines on the under surface. Legs well spined.

*Spinners*.—Apical tubules retracted; 4–5 can, however, be made out within the terminal sheath. Apical border fringed with plumose hairs: these are present, though to a much less extent, in other species of *Asemesthes*.

*Vulva*.—As in fig. 15.

*Measurements*.—Largest specimen: carapace, 3 mm. in length. Total length, 8.8 mm.

This species appears to bear certain resemblances to genus *Gnaphosa*.

ANEPLASA FACIES, n. sp. (Fig. 16.)

*Specimens*:—

1 ♀ and 3 jv. (B 2411 type). Grahamstown. (Dr. W. F. Purcell, October 6, 1905.)

1 ♀ (Grahamstown Museum). Grahamstown. (J. Hewitt, September 1916.)

1 ♀ (5714). Blue Cliff, Uitenhage Div. (J. L. Drèje, October 1899.)

1 ♀ (3438), Dunbrody, Uitenhage Div. (Rev. J. A. O'Neil, 1898.)

*Colour*.—Carapace as in *balnearia*; hairs and infuscation less strongly developed; abdomen similar, but duller and much fainter.

*Eyes*.—Anterior row seen from above straight to slightly recurved; medians slightly smaller than the laterals. Posterior row moderately recurved, very slightly wider than the anterior row; median eyes subangular, smaller than the laterals, which are not large. Clypeus equal to the diameter of an anterior lateral eye.

*Legs*.—Tarsus I densely scopulated; metatarsus sparsely scopulated anteriorly, bearing 1 anterior spine on the inner side, and 2 sub-basally on the under surface; 2nd leg similar, scopulation less, and the pair of spines on the metatarsus almost median in position. Tarsus III with a few scopular hairs, tarsus IV with none. Metatarsi III and IV strongly spined.

*Spinners*.—Inferior spinners bearing 4 apical tubules; apical hairs as in *balnearia*, but less numerous.

*Vulva*.—As in fig. 16.

*Measurements*.—Carapace, 2.5 mm. in length. Total length, 7 mm.

ANEPLASA INTERROGATIONIS, n. sp. (Fig. 24.)

*Specimens*.—1 ♀ (12,665 type). Montagu Baths. (Dr. W. F. Purcell, November 1902.)

*Colour.*—Carapace pale yellowish brown, dark-rimmed, and with infuscated mottling over entire surface; no pubescence apparent in alcohol. Sternum, coxae, and legs paler than the carapace. Abdomen uniform dull testaceous in colour, slightly infuscated posteriorly.

*Carapace.*—Equal in length to metatarsus and just over  $\frac{1}{2}$  tarsus IV and slightly greater than metatarsus and tarsus I.

*Eyes.*—Anterior row seen from in front procurved and narrow; median eyes very small, about  $\frac{1}{2}$  a diameter apart, and nearly touching the laterals, which are very much larger. Seen from above, the anterior row is straight to very slightly recurved. Posterior row well recurved and wider than the anterior row; lateral eyes the same size as the anterior laterals; medians small, triangular, inclined inwards towards their bases, and nearer to each other than to the laterals. Clypeus subequal to the diameter of an anterior lateral eye.

*Legs.*—Clothed with long, often stiff hairs; plumose hairs also present. Tarsus and metatarsus I scopulate, but not densely; metatarsus I with 2 submedian spines on the under surface; tibia I spineless. Second leg less scopulated, especially on the metatarsus; under surface of the latter also with an apical spine; tibia II bearing an apical, a median, and a basal spine on the under surface. Tarsus III bearing scopular hairs and other bristle-like hairs; metatarsus well spined; 4th leg similar, but scopular hairs on the tarsus less numerous. Teeth on claws in a single row.

*Spinners.*—Apical tubules of inferior spinners retracted; 2 can, however, be made out, withdrawn into the terminal sheath.

*Vulva.*—As in fig. 24.

*Measurements.*—Length of carapace, 2 mm. Total length, 4.2 mm.

#### ANEPLASA NIGRA, n. sp. (Fig. 17.)

*Specimens.*—1 ♀ (B 3459 type). Matroosberg Mts., Ceres, 5000–6000 ft. (R. W. Tucker, November 1917.)

*Colour.*—Carapace very dark brown, rimmed and strongly mottled with black. Legs a little lighter, becoming paler distally; tarsi reddish in colour. Abdomen black, sternum dark infuscated brown.

*Eyes.*—Anterior row seen from in front procurved; medians about a diameter apart, and closer to the laterals, which are much larger. Posterior row slightly wider than the anterior row, moderately recurved; median eyes small, about a diameter apart, and  $1\frac{1}{2}$  diameters or more from the laterals. Laterals equal in size to the anterior laterals and a diameter from them. Clypeus just equal to the diameter of an anterior lateral eye.



*Legs.*—Tarsus I scopulate, also bearing bristle-like hairs; metatarsus bearing a few scopular hairs anteriorly, and 1 apical and 2 submedian spines on the under surface; 2nd leg similar; scopular hairs less and apical spines on the metatarsus weaker. Tarsi III and IV with a few scopular hairs. Tarsal fascicles become longer and stronger posteriorly.

*Spinners.*—Apical tubules of inferior spinners retracted; 3–4, however, appear to be present; apical fringe of plumed hairs also present.

*Vulva.*—As in fig. 17.

*Measurements.*—Length of carapace, 2 mm. Total length, 4.4 mm.

ANEPLASA PRIMARIS, n. sp. (Fig. 18.)

*Specimens* :—

1 ♂ (type) and 2 subad. ♀♀ (150,464). Matjesfontein. (Dr. W. F. Purcell, August 1906.)

1 ♂ (3342). Rabiesberg, Worcester Div. (Dr. W. F. Purcell, November 1897.)

1 ♂ (B 4746). Montagu. (R. W. Tucker, November 1919.)

*Colour.*—Carapace medium brown, black-rimmed, and with a slightly darker lateral band on each side between border and centre; border and central portion clothed with whitish hairs, remainder with dark hairs. Abdomen with usual light serrated median band, dark-edged, and more conspicuous posteriorly. Legs a little lighter than the carapace.

*Eyes.*—Anterior row seen from in front procurved; medians less than a diameter apart and nearly touching the laterals, which are only slightly larger; from above the anterior row appears straight to recurved. Posterior row wider and recurved; medians subangular, about a diameter apart, and slightly more from the laterals, which are somewhat larger, subequal to the anterior laterals, and distant from them  $1\frac{1}{2}$ –2 times their diameter. Clypeus somewhat exceeding the diameter of an anterior lateral eye.

*Chelicera.*—As in *sculpturata*.

*Legs.*—Tarsus I lightly scopulate, metatarsus without scopular hairs, and bearing 1 apical and 2 submedian spines on the under surface; 2nd leg similar. Tarsus III furnished with bristles and a few scopular hairs; metatarsus heavily spined. 4th leg similar, tarsus without scopular hairs.

*Spinners.*—Tubules retracted and indeterminable.

*Pedipalps*.—As in fig. 18; the structure varies in appearance even on the opposite palp of the same specimen, the central hook being more prominent and the upper left-hand projection in fig. 18 being more apparent.

*Measurements*.—Length of carapace, 2.2 mm. Total length, 5 mm.

A ♂ (B 2397), Grahamstown (Dr. W. F. P., October 1905), appears to belong to the same species, though a little larger; the spinners in this case bear 5 apical tubules.

ANEPLASA SCULPTURATA, n. sp. (Fig. 19.)

*Specimens* :—

1 ♀ (3962 type). Matjesfontein, Worcester Div. (Dr. W. F. Purcell, September 1896.)

2 ♀♀ (B 1650). Matjesfontein. (Dr. W. F. Purcell, November 3, 1905.)

*Colour*.—Carapace light brown, dark-edged; furnished with a narrow border of appressed white hairs down each side, followed by a slightly broader, darker, mottled band; median band light. Legs light yellowish brown in colour. Dorsal surface of abdomen with a light median band, serrated, a little narrower posteriorly, and dark-edged; lateral portion of abdomen narrowly infuscated, especially anteriorly; median band and remainder of dorsal surface clothed with cream-coloured hair. Ventral surface pale.

*Eyes*.—Anterior row seen from in front procurved; eyes close together, practically equidistant; medians subequal to the laterals, which are not large; seen from above, the anterior row is straight to recurved. Posterior row slightly wider and moderately recurved; medians subangular and a little smaller than the laterals, which are nearly equal in size to the anterior laterals and not more than  $1\frac{1}{2}$  diameters from them. Clypeus slightly exceeding the diameter of an anterior lateral eye.

*Legs*.—Tarsus of 1st leg scopulate; metatarsus scopulate anteriorly and bearing 1 apical and 2 submedian spines on the under surface; 2nd leg similar, the 2 submedian metatarsal spines being slightly more basal in position. Tarsus III bearing a few scopular hairs and stiff bristles; tarsus IV with practically no scopular hairs. Posterior legs well spined.

*Chelicera*.—With 2 contiguous teeth, 1 large and 1 small, at the inner apex; these teeth appear to be present in most species of *Asemethes* also, but are often difficult to detect. Inferior border with the usual dentate keel.

*Spinners*.—Apical tubules retracted; 4–5 can, however, be distinguished in the inferior spinners.

*Vulva*.—As in fig. 19.

*Measurements*.—Length of carapace, 3 mm. Total length, 6.5 mm.

This species is closely related to *balnearia*, n. sp.

GEN. ASEMESTHES.

*Key to Species.*

- (20). 1. Posterior row of eyes strongly recurved.
- (11). 2. Length of total ocular area nearly equal to anterior ocular width.
- (5). 3. Posterior lateral eyes subequal to anterior laterals.
- 4. General colour pale yellow; legs only slightly infuscate; abdomen with medio-dorsal and 2 lateral dark bands . . . . . *pallidus*.
- (3). 5. Posterior lateral eyes much smaller than the anterior laterals.
- (8). 6. Length of carapace less than the length of metatarsus IV.
- 7. Colour yellowish brown, carapace dark-edged, slightly mottled black. Abdomen without pattern . . . . . *paynteri*.
- (6). 8. Length of carapace exceeding length of metatarsus IV.
- (10). 9. Colour yellowish brown, legs infuscated. Abdomen infuscated laterally and mid-dorsally, leaving a testaceous U-shaped band on dorsal surface. Length of carapace equal to tibia, metatarsus, and  $\frac{2}{3}$  tarsus I . . . . . *albovittatus*.
- (9). 10. Colour dark brown. Length of carapace slightly greater than metatarsus and tarsus I . . . . . *reflexus*.
- (2). 11. Length of total ocular area considerably less than anterior width.
- (14). 12. Posterior lateral eyes just over their diameter from the anterior laterals.
- 13. Length of carapace equal to metatarsus and over  $\frac{1}{2}$  tarsus I, and equal to  $\frac{5}{6}$  metatarsus IV . . . . . *fodina*. ♂
- (12). 14. Posterior lateral eyes  $1\frac{1}{2}$ –2 diameters from the anterior laterals.
- (17). 15. Posterior lateral eyes subequal to the anterior laterals.
- 16. Length of carapace subequal to metatarsus and tarsus I and equal to metatarsus IV . . . . . *windhukensis*.
- (15). 17. Posterior lateral eyes much smaller than the anterior laterals.
- (19). 18. Length of carapace equal to metatarsus and  $\frac{1}{4}$  tarsus IV . . . . . *aureus*.
- (18). 19. Length of carapace subequal to metatarsus and tarsus I and equal to  $\frac{7}{8}$  metatarsus IV . . . . . *numisma*.
- (1). 20. Posterior row of eyes moderately to weakly recurved.
- (35). 21. Length of carapace equal to or greater than length of metatarsus and tarsus I, and of metatarsus IV.
- (32). 22. Posterior lateral eyes subequal to the anterior laterals.
- (30). 23. Posterior lateral eyes just over their diameter from the anterior laterals.
- (25). 24. Vulva with long anterior tongue and no margin outlining the epigynal area . . . . . *purcelli*.
- (24). 25. Vulva with small rounded anterior tongue and an outlining margin to the epigynal area.



- (27). 26. Carapace dark brown, abdomen bearing no distinct pattern . . . *ales*.  
 27. Carapace yellowish brown, dark-edged; abdomen with median serrated band and lateral infuscations; sternum with infuscated border.  
 (29). 28. Metatarsus I with 4-5 spines on the under surface . . . *ceresicola*.  
 (28). 29. Metatarsus I with 6 spines on the under surface . . . *decoratus*.  
 (23). 30. Posterior laterals  $1\frac{1}{2}$ -2 diameters from the anterior laterals.  
 31. Carapace medium brown, dark-edged, infuscated laterally; faint broad median bands of prone white hairs. Median dorsal band on abdomen followed by a series of arrow-shaped dark marks . . . *lamberti*.  
 (22). 32. Posterior lateral eyes much smaller than the anterior laterals.  
 (34). 33. Metatarsus I without scopular hairs and bearing 5 spines on the under surface . . . *flavipes*.  
 (33). 34. Metatarsus I with scopular hairs laterally over  $\frac{2}{3}$  length, and with 4 spines on the under surface . . . *montanus*.  
 (21). 35. Length of carapace less than length of metatarsus and tarsus I, and of metatarsus IV.  
 (37). 36. Posterior lateral eyes subequal to the anterior laterals . . . *o'connori*. ♂  
 (36). 37. Posterior lateral eyes much smaller than the anterior laterals. *lineatus*.

Simon's species, *A. subnubilis*, is not included in above, as the specimen has not been seen, and the description given is quite insufficient to place it.

ASEMESTHES ALBOVITTATUS, Purc. (Fig. 20.)

*A. albovittatus*. Purcell in Schultze, Forschungsreise in Sudafrica, vol. i, p. 245, pl. xi, fig. 35.

*Specimens* :—

2 ♀♀ (11,863, 13,890). Hanover. (S. C. Schreiner, March 1902.)

2 ♂♂ (11,847). Hanover. (S. C. Schreiner, March 1902.)

1 ♀ (14,483). Pootjesfontein, near Hanover. (Neeser, Jr., 1905.)

1 ♂ (B 1960). Cradock. (Dr. W. F. Purcell, October 1905.)

*Colour*.—Carapace and legs yellowish brown; abdomen testaceous, infuscated laterally and mid-dorsally, leaving a testaceous U-shaped band on dorsal surface. Carapace with lateral band of prone white hairs.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{2}{3}$  tarsus I, and to metatarsus and  $\frac{1}{2}$  tarsus I.

*Eyes*.—Posterior row strongly recurved, narrower than anterior row. Posterior lateral eyes much smaller than the anteriors; length of total ocular area not much less than anterior ocular width.

*Legs*.—Anterior tarsi moderately scopulate; metatarsi with a few anterior scopular hairs; metatarsus I with 2 apical and 2 submedian spines on under surface; metatarsus II with 2 apical, 2 basal, and some

lateral spines. Posterior legs without scopular hairs, and with more numerous bristles and spines.

*Vulva*.—Somewhat “butterfly-shaped,” with outlining margin; see fig. 35, *loc. cit.*

*Measurements*.—Length of carapace, 1.5 mm. Total length, 3.5 mm.

♂ *Colour*.—General colour pale golden yellow; markings as in description of ♀; hair on abdomen more brown than black. Eyes slightly more strongly recurved than in ♀.

*Pedipalp*.—Tarsus and palpal organ as in fig. 20; process of tibia long, and anterior portion almost horizontal.

*Measurements*.—Total length, 2.75 mm.

#### ASEMESTHES ALES, n. sp. (Fig. 21.)

*Specimens*.—1 ♀ (5797 type). Grahamstown. (Rev. J. A. O’Neil, November 1899.)

*Colour*.—Carapace dark brown, dark-edged, and slightly more infuscated laterally; sparsely clothed with light appressed hairs; legs slightly lighter and paler distally. Abdomen dull greyish brown dorsally, and bearing no distinct pattern. Sternum medium brown and dark-edged.

*Carapace*.—Length slightly greater than metatarsus and tarsus I, and equal to metatarsus and  $\frac{1}{4}$  tarsus IV.

*Eyes*.—Normal; both rows moderately recurved. Posterior row slightly narrower than the anterior. Lateral eyes large, slightly smaller than the anterior laterals, and just over their diameter from them; posterior medians small, oval, whitish in colour, and slightly nearer to each other than to the laterals. Clypeus twice the diameter of an anterior lateral eye. Total ocular area wider than long.

*Legs*.—Tarsus I bearing numerous club-shaped scopular hairs; metatarsus bearing sparse scopular hairs, and 2 apical and 1 basal spines on the under surface; 2nd leg similar but with sparser scopular hairs, and 2 basal spines on the metatarsus. Tarsus III bearing sparse scopular hairs, metatarsus with none, but bearing numerous stout spines. Tarsus IV bearing stout bristles and isolated scopulated hairs. All legs, especially the posterior, are well armed with spines and stout bristles. Tarsal claws bearing large and conspicuous teeth.

*Spinners*.—Inferior spinners bearing the usual 3 apical tubules.

*Vulva*.—As in fig. 21.

*Measurements*.—Length of carapace, 2.5 mm. Total length, 6.4 mm.

## ASEMESTHES AUREUS, Purc.

*A. aureus.* Purcell in Schultze, Forschungsreise in Sudafrika, p. 242.

*Specimens.*—3 ♀♀ jv. (150,607, *ex typis*). Kamaggas, L. Namaqualand. (Schultze, July–August 1904.)

*Colour.*—Carapace dark brown, clothed with white appressed hair, with few intermingled yellow ones. Abdomen testaceous brown, clothed with golden-yellow appressed hairs. Legs similar to carapace, but paler from tibia onwards.

*Carapace.*—Equal in length to metatarsus and tarsus I, and to metatarsus and  $\frac{1}{4}$  tarsus IV.

*Eyes.*—Posterior row strongly recurved; lateral eyes much smaller than the anterior laterals and about twice a diameter from them. Total ocular area much wider anteriorly than long.

*Legs.*—Tarsus I moderately scopulated, metatarsus sparsely scopulated anteriorly, with 2 apical spines and 3–4 stout bristles on the under surface; posterior legs strongly clothed with bristles and spines.

*Spinners.*—Inferior with 3 large apical fusules.

*Measurements.*—Length of carapace, 3 mm. Total length, 6.2 mm.

## ASEMESTHES CERESICOLA, n. sp. (Fig. 22, A and B.)

*Specimens* :—

2 ♂♂, 6 ♀♀, 3 jv. (3289 types). Ceres. (Dr. W. F. Purcell and R. M. Lightfoot, October 1897.)

3 ♀♀ (B 3474). Matroosberg Mts. (Ceres), 4000 ft. (R. W. Tucker, November 1917.)

1 ♂, 1 ♀, and jvs. (B 2546). Gt. Winterhoek Mts. (R. W. Tucker, April 4 to 14, 1916.)

1 ♀ (13,161). Touws R. (Dr. W. F. Purcell, August 1903.)

1 ♀ and 2 jv. (B 2503). Gt. Winterhoek Mts. (R. W. E. Tucker, April 1916.) Darker than type.

5 ♀♀ (B 2544). Gt. Winterhoek Mts. (R. W. E. Tucker, April 1916.) Darker than type.

1 ♀ (B 2734). Gt. Winterhoek Mts. (R. W. E. Tucker, April 1916.) Darker than type.

2 ♂♂ (12,371). Breede River (Darling Bridge). (H. Hermann, October 1902.)

1 ♀ (5369). Mossel Bay. (L. J. Drèje, April 1899.)

♀ *Colour.*—Carapace light yellowish brown, dark-edged, and with dark markings on each side between fovea and border. Legs slightly



darker, femora infuscated. Abdomen dull testaceous dorsally, with a serrated median dark band broken or constricted towards the centre, and not extending as far as the spinners; irregular dark markings laterally, merging on the under surface to a slight general infuscation. Sternum with a slightly infuscated border.

*Carapace*.—Equal in length to metatarsus and tarsus I and to metatarsus IV.

*Eyes*.—With infuscated borders; anterior row moderately recurved, eyes equidistant; medians smaller than the laterals. Posterior row equal in width to the anterior row, and a trifle less recurved; medians smaller than the anterior medians; laterals subequal to the anterior laterals and more than a diameter from them; posterior eyes also approximately equidistant. Clypeus twice the diameter of an anterior lateral eye. Total ocular area much wider than long.

*Legs*.—Anterior legs bearing sparse, club-shaped scopular hairs on the tarsi and distal portion of the metatarsi. Tarsus III also with a few scopular hairs. All the tarsi bearing strongly toothed claws and coarse fascicles; remaining segments of legs well spined. Metatarsus I with 4–5 spines on under surface.

*Spinners*.—Inferior spinners bearing 3 large apical tubules.

*Vulva*.—As in fig. 22A.

♂ *Colour*.—Similar to ♀.

*Eyes*.—As in ♀; ocular area comparatively not so wide, and clypeus slightly less than twice the diameter of an anterior lateral eye.

*Legs*.—Tarsi I and II bearing a few club-like scopular hairs on the under surface; tarsi III and IV with a few scattered scopular hairs; remaining segments of legs bearing numerous long spines.

*Pedipalps*.—Tibial process as in *A. numisma* (fig. 27A). Ventral aspect of the palpal organ as in fig. 22B.

*Measurements*.—♂ and ♀ approximately equal in size; carapace, 2 mm. Total length, 5 mm.

#### ASEMESTHES DECORATUS, Purc.

*A. decoratus*. Purcell in L. Schultze, Forschungsreise in Sudafrika, vol. i, p. 243, pl. xi, fig. 30.

*Specimens*.—1 ♀ (150,608 *ex typis*). Kamaggas, Little Namaqualand. (L. Schultze, July–August 1904.)

For other localities see below.

*Colour*.—Carapace yellowish brown, black bordered, with irregular infuscated lateral bands. Abdomen dull testaceous, with irregular

median dark band and serrated lateral infuscation. Sternum bordered black.

*Carapace*.—Length equal to tibia and metatarsus I, and slightly greater than metatarsus and tarsus I; also equal to metatarsus and  $\frac{1}{4}$  tarsus IV.

*Eyes*.—Posterior row moderately recurved, and approximately the same width as the anterior row. Posterior lateral eyes equal to the anterior laterals, and just over a diameter from them. Total ocular area much wider than long.

*Legs*.—Tarsus I moderately scopulate; metatarsus scopulate anteriorly and bearing 6 spines on the under surface; 2nd leg similar.

*Vulva*.—As in fig. 30, *loc. cit.*

*Measurements*.—Length of carapace, 2.5 mm. Total length, 6 mm.

*Specimens* :—

1 ♀ (13,136). Matjesfontein. (R. M. Lightfoot, August 1903.)

1 ♀ (150,469). Matjesfontein. (Dr. W. F. Purcell, August 1906.)

The vulval plate in these specimens is lighter than in the *ex typis* specimen, and shows the convolutions of the vesicula seminalis beneath, even more than in fig. 30, *loc. cit.* They seem, however, justifiably referable to the above species.

#### ASEMESTHES FLAVIPES, Purc.

*A. flavipes*. Purcell in Schultze, Forschungsreise in Sudafrika, vol. i, p. 244, pl. xi, fig. 32.

*Specimens*.—1 ♀ (150,609 *ex typis*). Luideritz Bay, Gt. Namaqualand. (Schultze, January 1904.)

*Colour*.—Carapace light brown, darker anteriorly; dark-edged, and with conspicuous black mottling. Abdomen dull testaceous, with lateral infuscations and median irregular dark band. Legs pale yellow, redder distally; trochanters infuscated. Sternum infuscated; chelicera darker distally.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{4}$  tarsus I, and just exceeding metatarsus IV.

*Eyes*.—Posterior row moderately recurved, scarcely narrower than the anterior row; posterior lateral eyes much smaller than the anterior laterals, and about 1 diameter from them. Total ocular area considerably wider than long.

*Legs*.—Tarsus I with few scopular hairs, but numerous stout bristles.

Metatarsus I without scopular hairs and bearing 2 apical, 1 median, and 2 submedian spines on the under surface; metatarsus II more heavily spined.

*Spinners*.—Inferior, with 3 apical tubules.

*Vulva*.—As in fig. 32, *loc. cit.*

*Measurements*.—Length of carapace, 2.8 mm. Total length, 6 mm.

ASEMESTHES FODINA, n. sp. (Fig. 23.)

*Specimens* :—

1 ♂ (B 3157 type). Tsumeb, S.W. Afr. Prot. (R. W. Tucker, December 1919.)

1 ♂ (B 4815). Gaub., S.W. Prot. (R. W. T., January 1920.)

*Colour*.—Carapace medium brown, black-edged, and with irregular infuscated lateral bands and slight radial infuscations. Abdomen dull testaceous brown, with lateral infuscated mottling and indistinct dorsal band; also a slight dorsal scutum.

*Carapace*.—Length equal to metatarsus and over  $\frac{1}{2}$  tarsus I and equal to  $\frac{5}{6}$  metatarsus IV.

*Eyes*.—Anterior row seen from in front slightly recurved; medians smaller than laterals and nearer to them than to each other; anterior laterals 2–3 times the size of the medians; seen from above, anterior row is strongly recurved. Posterior row strongly recurved and slightly narrower than the anterior row; medians small, white, equidistant from each other and from the laterals; latter equal in size to the anterior laterals and at least a diameter from them. Clypeus at least the diameter of an anterior lateral eye. Total ocular area considerably wider than long.

*Legs*.—Tarsus I sparsely scopulate laterally to base, and with line of bristles down centre, metatarsus not scopulate but bearing 2 submedian and 2 apical spines on the under surface. Remaining tarsi without scopular hairs, but with bristles only on the under surface; spines on metatarsi successively stronger and more numerous on posterior legs.

*Spinners*.—Tubules retracted; apparently 2–3 present.

*Pedipalps*.—Very distinct in appearance; the general plan of palpal organ (fig. 23) is quite different to the usual palpal organ of Asemesthes; also the tibial process is straight, finely pointed and dagger-like, and swollen at the base; the usual process in Asemesthes is stouter and strongly curved.

*Measurements*.—Carapace, 2 mm. Total length, 4 mm.



## ASEMESTHES LAMBERTI, n. sp. (Fig. 25.)

*Specimens*.—1 ♀ (3632 type). Lambert's Bay, Clanwilliam. (R. Pattison, November 1897.)

*Colour*.—Carapace medium brown, dark-rimmed, lateral infuscated mottling, and faint broad median band of prone white hairs. Dorsal surface of abdomen with dark cinereous median band extending half-way and followed by a series of arrow-shaped dark marks narrowing to between the spinners; lateral and posterior borders of the upper surface dark; remainder somewhat pinkish in colour, and dotted with dark spots save on the portion occupied by the arrow markings. Legs slightly lighter than the carapace, femora infuscated and mottled on the upper surface.

*Carapace*.—Equal in length to metatarsus and tarsus I and to metatarsus and  $\frac{1}{3}$  tarsus IV.

*Eyes*.—Anterior medians very slightly nearer to the laterals than to each other. Posterior row scarcely narrower than the anterior, and moderately recurved; laterals subequal to the anterior laterals and distant about  $1\frac{1}{2}$  diameters from them; and medians if anything nearer to each other than to the laterals. Clypeus about twice the diameter of an anterior lateral eye. Total ocular area wider than long.

*Legs*.—As in *A. ceresicola*, the scopular hairs being more numerous on each leg and a few present on tarsus IV.

*Spinners*.—Apparently without terminal fusules; by transmitted light, however, the 3 fusules can be seen retracted in the terminal sheath.

*Vulva*.—As in fig. 25.

*Measurements*.—Carapace, 3 mm. in length. Total length, 7 mm.

## ASEMESTHES LINEATUS, Purc.

*A. lineatus*. Purcell in Schultze, Forschungsreise in Sudafrika, vol. i, p. 244, pl. xi, figs. 33–34.

*Specimens*.—1 ♀ (150,610 *ex typis*). Rooibank, S. Hereroland. (L. Schultze, May 1905.)

For other specimens see below.

*Colour*.—Carapace golden brown, with a short, irregular, infuscated band midway between stria and lateral margin; legs slightly paler. Abdomen testaceous, with irregular infuscated lateral markings, and with an anterior median dark band extending half-way down dorsal

surface ; also a dark spot posteriorly midway to spinners, and irregular dark flecks. Under surface pale.

*Carapace*.—Length subequal to metatarsus and tarsus I, and equal to metatarsus IV.

*Eyes*.—Posterior row very strongly recurved, medians very much smaller than the lateral. Posterior laterals smaller than the anterior laterals, and a diameter from them. Total ocular area much broader than long.

*Legs*.—Tarsus I scopulate laterally, anteriorly, and with line of bristles down centre. Metatarsus with 3 pairs of spines on the under surface ; 2nd leg similar, median spines on under surface weak. Posterior legs without scopulae and more heavily spined.

*Vulva*.—As in fig. 33, *loc. cit.*

*Measurements*.—Length of carapace, 2 mm. Total length, 5 mm.

*Specimens* :—

6 ♀♀ and jvs. (9491). Hanover. (S. C. Schreiner, September-October 1901.)

7 ♂♂, 8 ♀♀, and 16 jvs. (14,466). Hanover. (S. C. Schreiner, 1905.)

1 ♀ (11,918). Palmietfontein, near Hanover. (S. C. Schreiner, February 1902.)

1 ♀ and jv. (B 1609). Poortjesfontein, near Hanover. (Neeser, Jr., 1905.)

2 ♀♀ (14,497). Poortjesfontein, near Hanover. (Neeser, Jr., 1905.)

1 ♂, 5 ♀♀, and 6 jvs. (13,889). Hanover. (Schreiner, 1905.)

1 ♀ (B 216), N.W. of Herbert Div. (A. L. du Toit, November 1906.)

The vulva of the ♀ appears as in fig. 34, *loc. cit.* ; in all specimens, however, the median ridge between the two lateral dark plaques curves outwards on each side into a somewhat T-shaped form, the lateral portions being concave posteriorly, and often dark and prominent and forming shallow arches ; the anterior convex margin is just shown in fig. 33. In some specimens the T is very faint and appressed, and in others it is dark and prominent. Also in some specimens the median anterior tongue is situated immediately anterior to the T, and is dark and button-like. The range in variation in the vulvae seems to vary with the age and condition of the specimen, and though the same features are present in all, some are more prominent to the detriment of others.

In ♀ B 216 the T-shaped portion is very conspicuous ; the

posterior row of eyes is also not so strongly recurved, the small median eyes being well below the line joining the anterior borders of the lateral eyes. B 1609 is similar but darker.

In the ♂ the process which tapers anteriorly to the apex of the tarsus sweeps round across the ventral surface in a bold outstanding curve, and is larger than in the case of other species figured.

ASEMESTHES MONTANUS, n. sp. (Fig. 26, A and B.)

*Specimens*.—2 ♂♂ and 7 ♀♀ (12,380 types). Waterfall Mts., Tulbagh Road. (R. M. Lightfoot, November 1902.)

Also numerous specimens from Muizenberg Mts., Hout Bay Mts., Table Mt., Kalk Bay Mts., Devil's Peak (Table Mt.), Signal Hill, and Retreat and Bergvleit in the Cape Peninsula; and from Houwhoek, Stellenbosch, St. Helena Bay, Malmesbury, Clanwilliam, Tulbagh Road, Matroosberg Mts., Ceres (4000 ft.), and Hermanus Petrusfontein in C. Province. Also ♂ and ♀ from Montagu, ♀ showing variety of vulva, central portion being shortened and narrowed posteriorly. Also

1 ♀ (B 5096). Waterberg Mts., S.W. Prot. (R. Tucker, February 1920.)

1 ♀ (B 5060). Grootfontein, S.W. Prot. (R. Tucker, January 1920.)

♀ *Colour*.—Similar to *A. ceresicola*; in some specimens the posterior portion of the median abdominal band is bordered with light spots, and the testaceous background is more tawny; sternum uniform black-brown in colour; coxae, especially anterior pairs, infuscated; femora, except of 4th legs, infuscated.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{6}$  tarsus I and metatarsus and  $\frac{1}{6}$  tarsus IV.

*Eyes*.—Lateral eyes comparatively small (smaller than in *ceresicola*); ocular area nearly twice as broad as long. Both lines moderately recurved, eyes equidistant. Clypeus about  $2\frac{1}{2}$  times the diameter of an anterior lateral eye. Posterior laterals subequal to anterior laterals and scarcely  $1\frac{1}{2}$  diameters from them. Total ocular area considerably wider than long.

*Legs*.—Tarsi I and II bearing numerous scopular hairs, and metatarsi a few anteriorly on the under surface. Tarsi III and IV with a few elongated scopular hairs. Legs otherwise, as in *ceresicola*.

*Spinners*.—Inferior spinners bearing 3 apical tubules.

*Vulva*.—As in fig. 26A. The central portion is often much



shortened, the anterior portion extending much further down, as in No. 11,671 (St. Helena, B).

♂ *Colour*.—As in ♀.

*Carapace*.—Length equal to tibia and metatarsus I and subequal to metatarsus IV.

*Eyes*.—Also as in ♀.

*Chelicera*.—Superior border apparently without teeth.

*Legs*.—Tarsi I and II well scopulated; III and IV sparsely so; metatarsi I and II bearing sparse scopular hairs on the under surface.

*Pedipalps*.—Tibial process of the usual form. Ventral surface of tarsal organ as in fig. 26B.

*Measurements*.—♂ and ♀ approximately the same; carapace, 2.2 mm. in length. Total length, 5.8 mm.

Specimen from Waterberg Mts., S.W. Prot., is lighter in colour than type; the spinners have 2 tubules, and the central portion of vulva is marked with lateral brown striae. Specimen from Grootfontein also shows a variety of vulva.

ASEMESTHES NUMISMA, sp. nov. (Fig. 27, A and B.)

*Specimens*.—1 ♂, 2 ♀♀, and jv. ♀ (No. B 2095 types). Namsem, S.W. Africa. (R. W. Tucker, December 22, 1915, Percy Sladen Memorial Expedition.)

♂ *Colour*.—Carapace pale brown with darkened edges, and median radiating infuscations down each side. Legs pale brown, with faint darker banding. Abdomen dull testaceous; dorsal surface with a median purple black band extending over half its length, continued as three spots on each side, and terminating in a transverse dark mark, and with additional dark markings above the spinners; further, each side of the abdomen bears a serrated or broken black band. Under surface of abdomen slightly infuscated. Sternum very light brown, with a black border; coxae and legs paler.

*Carapace*.—Length subequal to metatarsus and tarsus I, and equal to  $\frac{7}{8}$  metatarsus IV.

*Eyes*.—Seen from above, anterior row is recurved and slightly wider than the posterior row; laterals about 3 times the size of the medians and nearly touching them; medians slightly further apart. Posterior row strongly recurved; medians very small; laterals large, but smaller than the anterior laterals, from which they are about twice their own diameter distant. Total ocular area much wider than long.

*Spinners*.—Superior spinners clothed with sparse long hairs, and bearing a cluster of 3 fairly long grey fusules, dorsally, at the apex.

*Legs*.—Bearing long, stout spines save on the tarsi, which are long and slender. Tarsi not scopulated, but bearing stout bristles or fine spines on the under surface; fascicles are also present, which are as long as the tarsal claws but do not hide them; the latter are armed with long, strong teeth over the entire length of the inner curve.

*Pedipalps*.—As in fig. 27A; cf. *A. lineatus*, Purc.

*Measurements*.—Total length (excluding spinners), 4 mm.

♀ *Colour*.—In adult specimens carapace and abdomen have lost their hairy covering to a great extent. Integument of carapace medium to dark brown, ornamented much as in ♂, but with darker ocular area and a distinct long oval, or leaf-like, dark mark on each side, running obliquely outwards from an almost central spot. Sternum dark brown, coxae paler; legs dark brown, femora slightly infuscated.

*Carapace*.—Subequal in length to metatarsus of 4th leg.

*Eyes*.—Anterior row with centres almost in a straight line; *i.e.* less recurved than in ♂; posterior row slightly more recurved; posterior laterals  $1\frac{1}{2}$ –2 diameters apart.

*Spinners*.—As in ♂; terminal fusules stouter.

*Maxillae*.—Short, slightly longer than labium, and curving inwards to just meet over its apex.

*Chelicera*.—With usual keel on inner or posterior margin.

*Legs*.—In order 4, 3, 2, 1, the 4th legs being considerably the longest. Tarsi much as in ♂; fascicles pectiniform and less conspicuous than in the ♂. Claws with a uniseriate row of about 5 long teeth.

*Pedipalps*.—Comparatively short, tarsi spined, and equal in length to patella and tibia.

*Vulva*.—As in fig. 27B; in some cases the circular opening to the vesicula seminalis on each side is very considerably larger and hides the tubular portion, also the semi-detached upper flap varies in size, being in some cases longer and narrower.

*Measurements*.—Largest specimen, 8 mm. in length; carapace, 3.5 mm.

In young specimens the hairy clothing is complete on the carapace as well as on the abdomen. Seen in spirits, the carapace then appears covered with short appressed pale hairs in the centre, and laterally with a broad black band of hairs running down each side from lateral eyes to posterior border. The abdomen has a dark central band

anteriorly on the upper surface, continued by two arrow-like markings to  $\frac{3}{4}$  of the total length; the sides are covered with appressed fine black hairs forming a margin with serrated upper edges, and shading away on the under surface; the rest of the dorsal surface is pinkish in colour and clothed with fine light hairs and sparse longer dark ones. When dry, the pale hairs are a dirty white in colour, and are distributed over the legs as well, giving them a faint banded appearance.

Other specimens were obtained from S.W. Africa on the same expedition, from the following localities:—

Voigtsgrund; 1 ♀ and 2 jv.. December 19, 1915. (No. B 2147.)

Nomptsas, Usib River; jv. ♀ and 2 jv. ♂♂. December 24, 1915. (No. B 2071.)

Gamis River; 1 ♀. December 26, 1915. (No. B 2062.)

Hoffnungsveld, S. of Windhuk; 1 ♂. January 8, 1916. (No. B 2156.)

ASEMESTHES O'CONNORI, n. sp. (Fig. 28.)

*Specimens*:—

1 ♂ (B 4789 type). Ashton. (R. W. Tucker, November 1919.)

1 ♂ and subadult ♀ (B 4783). Montagu. (R. W. Tucker, November 1919.)

*Colour*.—Carapace very dark brown, infuscated laterally, a broad band of white hairs down the centre and a narrow border of white hairs laterally. Abdomen greyish black dorsally, with feather-like band of white hairs down the centre. Legs lighter than the carapace, except the anterior femora, which are similar in colour; sternum dark brown, coxae light brown.

*Carapace*.—Equal in length to metatarsus and  $\frac{4}{5}$  tarsus I, and subequal to metatarsus IV.

*Eyes*.—Anterior row seen from above recurved. Posterior row slightly more recurved, laterals subequal to the anterior laterals and about a diameter and a half from them. Clypeus twice the diameter of an anterior lateral eye. Ocular area considerably wider than long.

*Spinners*.—Bearing 3 fusules apically.

*Legs*.—Tarsus I bearing seopular hairs and stout bristles on the under surface; tarsus II with scarcely any seopular hairs and much stouter bristles; tarsi III and IV with bristles only, and metatarsi more heavily spined.



*Pedipalps*.—Palpal organ as in fig. 28. Outer apical process of tibia tapering to a fine straight point and furnished with only a blunt lobe midway on lower surface.

*Measurements*.—Carapace, 2.2 mm. Total length, 5 mm.

ASEMESTHES PAYNTERI, n. sp. (Fig. 29.)

*Specimens*.—1 ♀ (14,253 type). Touws River. (J. Paynter, December 1904.)

*Colour*.—Carapace yellowish brown, dark-edged; surface slightly mottled. Abdomen testaceous; sternum about the same colour as the carapace.

*Carapace*.—Equal in length to metatarsus and  $\frac{3}{4}$  tarsus I, and to  $\frac{8}{9}$  metatarsus IV.

*Eyes*.—Anterior row moderately recurved; medians very small, less than a diameter apart and nearer to the laterals, which are very large. Posterior row equal in width and strongly recurved (a little less than in *A. reflexus*, n. sp.); posterior laterals smaller than the anterior laterals, and separated by  $1\frac{1}{2}$  times their diameter; posterior medians very small, and set in the centre of a long oval dark mark; remaining eyes, especially the laterals, surrounded by black bands. Clypeus twice the diameter of an anterior lateral eye. Total ocular area quite as long as wide.

*Legs*.—Similar to *reflexus*.

*Spinners*.—Apical tubules of inferior spinners retracted and indeterminable.

*Vulva*.—As in fig. 29.

*Measurements*.—Length of carapace, 2.75 mm. Total length, 5.75 mm.

ASEMESTHES PURCELLI, n. sp. (Fig. 30.)

*Specimens* :—

2 ♀♀ and jv. (12,658 types). Montagu Baths. (Dr. W. F. Purcell, November 1902.)

1 ♀ (B 4250). Kaapmuiden, E. Transv., Low Veld. (R. W. Tucker, November 1918.)

2 ♀♀ (B 4344). Komatipoort, E. Transv., Low Veld. (R. W. Tucker, November 1918.)

*Colour*.—Carapace medium to dark brown, lighter in the centre, infuscated laterally; clothed with sparse appressed hairs, which are more numerous down the centre line, forming a white median band. Abdomen dull greyish brown dorsally; pattern faint, but consisting

of a narrow anterior median dark band, followed by dark chevrons which diminish posteriorly; sides infuscated, and remainder of dorsal surface flecked with dark spots. Femora of legs similar in colour to the carapace; patellae and distal portion of legs, especially the posterior pairs, much lighter.

*Carapace*.—Equal in length to metatarsus and tarsus I, and to metatarsus and  $\frac{1}{6}$  tarsus IV.

*Eyes*.—Both rows moderately recurved. Anterior eyes equidistant, laterals much larger than the medians. Posterior row not narrower than the anterior row. Posterior laterals slightly smaller than anterior laterals and just over their diameter from them. Total ocular area much wider than long.

*Legs*.—Tarsus I scopulate, and bearing numerous stiff bristles; metatarsus I bearing scopular hairs anteriorly on the lateral under surfaces; 2nd leg similar, but the bristles are stronger and more numerous, and the basal spines on the metatarsus are slightly more median in position. Tarsus III bearing a few scopular hairs, and numerous long bristles; metatarsus heavily spined; 4th leg similar. Tarsal claws as in *ales*.

*Spinners*.—Inferior spinners with 3 apical tubules.

*Vulva*.—As in fig. 30. (The original specimen from which the figure and description are taken was subsequently badly damaged.)

*Measurements*.—Length of carapace, 3 mm. Total length, 7 mm.

The ♀♀ from Kaapmuiden and Komatipoort are darker and slightly smaller than the type, and the vulvae differ somewhat in that the "tongue" is longer, and the lower median dark-rimmed hollow is by no means so pronounced, and in one case its outline can hardly be distinguished. Nevertheless the specimens do not appear specifically distinct from *A. purcelli*.

1 ♀ (B 4787) from Ashton, C.P. (R. W. Tucker, November 1919.) Coincides with type.

ASEMESTHES REFLEXUS, n. sp. (Fig. 31, A and B.)

*Specimens* :—

1 ♂ and 3 ♀♀ (B 1938 types). Beaufort West. (Dr. W. F. Purcell, October 1905.)

1 ♀ (12,659). Montagu Baths. (Dr W. F. Purcell, November 1902.)

1 ♀ (3571). Clanwilliam. (C. L. Leipoldt, October 1897.)

♀ *Colour*.—Carapace dark brown, clothed with scanty pale pubes-

cence ; legs similar in colour to the carapace. Abdomen dull brownish in colour ; also clothed with a pale pubescence. Sternum dark brown.

*Carapace*.—Slightly longer than metatarsus and tarsus I, and equal to metatarsus and about  $\frac{1}{6}$  tarsus IV.

*Eyes*.—Seen from above, front row straight to lightly recurved ; medians set on a slight tubercle, small, about a diameter apart, and a little less from the laterals, which are much larger. Posterior row slightly narrower than the anterior, and very strongly recurved ; medians small, about a diameter apart, and about 3 diameters from the laterals, which are considerably posterior to them ; laterals smaller than the anterior laterals, and 2 diameters from them. Clypeus  $2\frac{1}{2}$ –3 times the diameter of an anterior lateral eye, and sloping forwards to a slight degree. Total ocular area not very much wider than long.

*Legs*.—Tarsus I bearing a few scopular hairs, and numerous short slender spines in rows down the under surface ; upper surface also bearing numerous slender spines ; metatarsus with 1 or 2 scopular hairs anteriorly, also with 2 apical, 2 median, and 2 sub-basal spines ; tibia also bearing paired spines on the under surface ; 2nd leg similar ; also with stiff bristles, and bearing an additional spine on the outer surface. Tarsi and metatarsi III and IV with no scopular hairs, but with more numerous and stronger bristles and spines (occasionally a few club-shaped scopular hairs may be present on tarsus III).

*Chelicera*.—Superior border with a large tooth at the inner apex ; inferior border with the usual keel.

*Spinners*.—Inferior spinners with 3 apical tubules.

*Vulva*.—As in fig. 31A ; in some specimens the central markings are absent, and the whole surface, apart from the tongue, is whitish.

♂ *Colour*.—Slightly lighter than the ♀ ; dorsal surface of the abdomen brownish testaceous, with a dark irregular median band, and the rest of the surface mottled with dark marks, especially laterally ; under surface paler, genital surface dark. Sternum dark brown.

*Eyes*.—As in ♀ ; anterior row more strongly recurved, and eyes slightly more separated. Clypeus vertical, and scarcely more than twice the diameter of an anterior lateral eye.

*Legs*.—Similar to the ♀ ; anterior tarsi scarcely scopulated, but bearing short fine spines ; posterior legs more heavily spined.

*Spinners*.—As in ♀.

*Pedipalps*.—Tarsal organ as in fig. 31B. Tibial projection as in other species.



*Measurements*.—Length of carapace, ♀ 2.75 mm., ♂ 2 mm. Total length, ♀ 5.75 mm., ♂ 5 mm.

ASEMESTHES SUBNUBILIS, Sim.

*A. subnubilis*. Simon, E., in Ann. Soc. Ent. Fr., 1887, p. 373.

“ ♀ (pullus).—Length, 8 mm.

“ Cephalothorax smooth, shining, dusky brown. Ocular region black. Abdomen oval, dark ashy colour above; under surface paler to dull testaceous. Sternum, chelicerae, and legs dark brown, smooth; metatarsi and tarsi lighter and yellowish red. (Vulva not fully adult.) ”

ASEMESTHES WINDHUKENSIS, n. sp. (Fig. 32.)

*Specimens* :—

1 ♀ (B 5164 type). Windhuk, S.W. Prot. (R. W. Tucker, December 1919.)

1 ♀ (B 5585). Tsumeb, S.W. Prot. (E. Koechig, January 1921.)

1 ♀ (B 5139), Tsintsabis, Northern S.W. Prot. (R. Tucker, December 1919.)

*Colour*.—Carapace light brown, margin dark; lateral and posterior borders mottled; no pubescence apparent; legs slightly lighter than the carapace, femora infuscated. Abdomen testaceous, with median dark band and strong lateral infuscation. Sternum similar in colour to carapace.

*Carapace*.—Length subequal to metatarsus and tarsus I, and equal to metatarsus IV.

*Eyes*.—Seen from above, the front row is well recurved; posterior row equal in width and also well recurved; medians small, a diameter apart, and a diameter or less from the laterals; laterals subequal to the anterior laterals and barely a diameter and a half from them. Clypeus quite twice the diameter of an anterior lateral eye. Total ocular area wider than long.

*Legs*.—Tarsus I bearing scopular hairs and stout bristles on under surface; tarsus II with fewer scopular hairs; metatarsus with 3 pairs of spines on under surface; tarsus III with a few scopular hairs anteriorly and more numerous long and stout bristles; metatarsus with numerous bristles and strong spines; 4th leg similar, but with fewer scopular hairs on the tarsus.

*Chelicera*.—Superior border with strong tooth; inferior border with usual dentate keel.

*Spinners*.—Inferior spinners with 2–3 apical tubules.

*Vulva*.—As in fig. 32.

*Measurements*.—Length of carapace, 2.8 mm. Total length, 7 mm.

## DRASSODEAE.

### *Key to Genera.*

- (4). 1. Lateral eyes on each side widely separated; median ocular area longer than wide; anterior eyes subequal, posterior row lightly procurved. Inferior border of chelicera with 2 teeth; labium much longer than broad; maxillae strongly impressed . . . . . *Drassodes*.
- (3). 2. Anterior medians smaller than the laterals, posterior row decidedly recurved. Labium about as broad as long . . . . . *Drassodella*.
- (2). 3. Median ocular area not distinctly longer than broad. Inferior border of mandibles with 3 teeth. Labium longer than broad . . . . . *Allodrassus*.
- (1). 4. Lateral eyes on each side subcontiguous; median ocular area wider than long. Maxillae faintly impressed.
- (7). 5. Posterior row of eyes straight.
6. Labium longer than broad. Anterior median eyes slightly smaller than the laterals . . . . . *Talanites*.
- (5). 7. Posterior row of eyes procurved.
- (11). 8. Anterior median eyes larger than the laterals; labium not much longer than broad.
- (10). 9. Inferior margin of chelicera bidentate. Legs slender. Inferior spinners distinctly biarticulate . . . . . *Leptodrassus*.
- (9). 10. Inferior margin of chelicera muticous. Legs short. Inferior spinners without distinct apical joint . . . . . *Homeothele*.
- (8). 11. Anterior median eyes equal in size to laterals and to remaining eyes. Labium longer than broad, parallel-sided.
12. Inferior margin of chelicera bidentate. Legs long and moderately strong. Inferior spinners not biarticulate . . . . . *Adelphodrassus*.

All of these genera, save *Homeothele* and *Adelphodrassus*, are found in Africa, but *Talanites* and *Allodrassus* are not known from South Africa.

## GEN. DRASSODES, Westr.

### *Key to Species.*

#### *Females.*

- (14). 1. Chelicera with one large and one small tooth.
- (11). 2. Anterior width of carapace equal to half the greatest width.
- (8). 3. Length of carapace equal to tibia, metatarsus, and a portion up to  $\frac{1}{3}$  of the tarsus of 1st leg.
- (5). 4. Posterior medians large and touching . . . . . *goldi*.
- (4). 5. Posterior medians not touching.

- (7). 6. Posterior medians close together . . . . . *dregei*.  
 (6). 7. Posterior medians some distance apart . . . . . *lyratus*.  
 (3). 8. Length of carapace just equal to tibia and metatarsus of 1st leg.  
 (10). 9. Posterior border of anterior slit of vulva T-shaped . . . *sesquidentatus*.  
 (9). 10. Posterior border of anterior slot of vulva broad and tongue-like  
 posteriorly . . . . . *tessellatus*.  
 (2). 11. Anterior width of carapace greater than half the greatest width.  
 (13). 12. Posterior medians half a length apart and over a length from the laterals.  
 Vulva slightly longer than broad, basal portion U-shaped; anterior  
 slit extending posteriorly as a moderately broad white tongue.  
*lophognathus*.  
 (12). 13. Posterior medians  $\frac{1}{2}$  a length apart but less than a length from the laterals.  
 Vulva broader than long; anterior slit shallow, broad, and extending  
 between the arms of the broad U-shaped basal portion . . . *calceatus*.  
 (1). 14. Chelicera with 3 teeth.  
 (18). 15. Width of carapace equal to  $\frac{1}{2}$  the greatest width.  
 (17). 16. Length of carapace equal to tibia, metatarsus, and a portion up to  $\frac{1}{3}$  of  
 tarsus of 1st leg . . . . . *ereptor*.  
 (16). 17. Length of carapace just equal to tibia and metatarsus of 1st leg.  
*splendens*.  
 (15). 18. Width of carapace greater than  $\frac{1}{2}$  the greatest width.  
 (22). 19. Posterior medians nearly a length apart.  
 (21). 20. Vulva longer than broad; basal portion somewhat horseshoe-  
 shaped . . . . . *bechuanicus*.  
 (20). 21. Vulva broader than long . . . . . *solitarius*.  
 (19). 22. Posterior medians large and  $\frac{1}{2}$  a length apart . . . . . *tortuosus*.

In this genus the sexual organs are the distinguishing specific characters; other characters are so uniform in each species that the few available for specific purposes are practically all included in the key given in the previous pages, the descriptions in each case being made from type specimens; hence in the following species of Purcell's the descriptions are not repeated, the key and figures quoted below being deemed sufficient. New species are described as usual.

DRASSODES LOPHOGNATHUS, Purc.

1907. *D. lophognathus*. Purcell in A.M.N.H. (7), vol. xx, p. 305, pl. xiii, figs. 4-6, ♂ and ♀.

5 ♀♀ and 4 ♂♂ from Devil's Peak, Cape Town. (W. F. Purcell.)

1 ♀ from Stellenbosch. (L. Péringuey.)

5 ♀♀ from Pass at Avontuur, near Stormsvlei. (Mr. and Mrs. W. F. Purcell.)

♂ and ♀, St. Helena Bay, Malmesbury Div. (J. E. C. Goold.)

Other ♂♂ and ♀♀ from Onderbergvlei, Clanwilliam Div., Hex River



valley, Touws River, and Matjesfontein in Worcester Div., Laingsburg, Port Albert Div., Beaufort West, and Willowmore.

*Specimens from new localities* :—

1 ♀ (13,105). Engobe Distr., Transkei. (Weisbecker, August 1903.)

1 ♀ (Grahamstown Museum), De Aar.

1 ♀ (B 2683). Gt. Winterhoek Mts., 4400–5500 ft. (R. W. Tucker, November 29, 1916.)

Specimens darker or “ dirtier ” in colour than the types ; abdomen without the dark spots or bands ; eyes with the anterior row lightly procurved and the posterior row more strongly procurved.

#### DRASSODES TESSELLATUS, Purc.

1907. *D. tessellatus*. Purcell in A.M.N.H. (7), vol. xx, p. 307, pl. xiii, figs. 7 and 8, ♂ and ♀.

17 ♂♂ and 45 ♀♀ from Hanover. (S. C. Schreiner, 1901.)

♂ and ♀ from Steynsburg Div., C. Province. (G. G. Ponder.)

*Specimens from new localities*.—3 ♀♀ (B 1576), De Aar. (Dr. W. F. Purcell, September 1913.)

These specimens have been referred to this species, although in the absence of the ♂ it is somewhat difficult to differentiate it from *lophognathus*.

Also ♂ and ♀ (B 144), Smithfield. Dr. Kannemeyer.

The ♀ agrees with the type specimen, but the palp of the ♂ varies slightly ; the dentition of the chelicera, however, is that of *tessellatus*. These specimens are slightly smaller than the types, the length of the ♀ being 7.3 mm., and of the ♂ 8 mm.

#### DRASSODES SOLITARIUS, Purc.

1907. *D. solitarius*. Purcell in A.M.N.H. (7), vol. xx, p. 308, pl. xiii, fig. 9, ♀.

1 ♀ from Hanover. (S. C. Cronwright Schreiner.)

#### DRASSODES CAFFRERIANUS, Purc.

1907. *D. caffrerianus*. Purcell in A.M.N.H. (7), vol. xx, p. 308, pl. xiii, fig. 10, ♂.

1 ♂ from Kenaha Bridge, about 22 miles west of Maclear, Pondoland. (A. S. Weisbecker, August 1903.)

DRASSODES CALCEATUS, Purc.

1907. *D. calceatus*. Purcell in A.M.N.H. (7), vol. xx, p. 309, pl. xiii, fig. 11, ♀.

2 ♀♀ from Matjesfontein.

DRASSODES GOOLDI, Purc.

1907. *D. gooldi*. Purcell in A.M.N.H. (7), vol. xx, p. 309, pl. xiii, fig. 12, ♀.

2 ♀♀ from Stompneus, St. Helena Bay, Malmesbury Div. (J. E. C. Goold.)

DRASSODES LYRATUS, Purc.

1907. *D. lyratus*. Purcell in A.M.N.H. (7), vol. xx, p. 309, pl. xxx, fig. 13, ♀.

1 ♀ from Matjesfontein, Worcester Div.

DRASSODES HELENÆ, Purc.

1907. *D. helenæ*. Purcell in A.M.N.H. (7), vol. xx, p. 309, pl. xiii, figs. 14 and 14A, ♂.

1 ♂ from Stompneus, St. Helena Bay, Malmesbury Div. (J. E. C. Goold.)

DRASSODES DREGEL, Purc.

1907. *D. dragei*. Purcell in A.M.N.H. (7), vol. xx, p. 310, pl. xiii, fig. 15, ♀.

2 ♀♀ from Port Elizabeth. (J. L. Drège, July 1899.)

DRASSODES EREPTOR, Purc.

1907. *D. ereptor*. Purcell in A.M.N.H. (7), vol. xx, p. 310, pl. xiii, figs. 16 and 17, ♂ and ♀.

5 ♀♀ from the Hot Baths, Montagu. (W. F. Purcell, November 1902.)

1 ♀ from Clanwilliam. (C. L. Leipoldt, October 1897.)

1 ♀ from Bosch Kloof, in Cedarberg Range, Clanwilliam Div. (Leipoldt, December 1897.)

1 ♂, Salt River Flats, Cape Peninsula. (W. F. Purcell, April 1896.)

*New Localities*.—1 ♀ (Grahamstown Museum). Aliwal North. (Sr. Stephany.)

## DRASSODES SESQUIDENTATUS, Purc.

1908. *D. sesquidentatus*. Purcell in L. Schultze, Forschungsreise in Südafrika. Denk. med. nat. Gesell., Bd. xiii, p. 235, pl. xi, figs. 13 and 14.

15 ♀♀, 18 ♂♂, and 3 jvs. from Kamaggas, Little Namaqualand. July and August 1904.

Very near *D. lophognathus*, Purc.

## DRASSODES BECHUANICUS, n. sp. (Fig. 33.)

*Specimens*.—1 ♀ (14,504 type). Maritzsojo, Bechuanaland. (A. L. du Toit, October 1905.)

*Colour*.—Carapace light yellowish brown, becoming darker and redder distally; chelicera black-red in colour. Legs yellowish brown, abdomen testaceous, the dorsal surface bearing faint dark spots.

*Carapace*.—Width across the ocular area a little over half the greatest width. Length slightly exceeding tibia and metatarsus I. Clypeus subequal to the diameter of an anterior lateral eye.

*Eyes*.—Anterior row seen from in front moderately procurved; medians a diameter apart, but closer to the laterals, which are subequal in size. Posterior row procurved, medians subangular and closer to each other than to the laterals. Median ocular area longer than wide, and a trifle narrower posteriorly.

*Chelicera*.—Superior border with 3 teeth, of which the central one is the larger; inferior border with 3 small teeth (1 chelicera bears only 2, slightly larger in size).

*Legs*.—Metatarsus I bearing no spines; tibia also spineless, and bearing scarcely any trace of anterior lateral scopula. Metatarsus II with 2 basal spines on the under surface. Metatarsus III with an anterior scopula. Metatarsus IV with a few scopular hairs anteriorly. The tarsi are all scopulated, the posterior ones less densely.

*Vulva*.—As in fig. 33.

*Measurements*.—Carapace, 4.8 mm. long. Total length, 10.6 mm.

## DRASSODES MASCULUS, n. sp. (Fig. 34.)

*Specimens*.—1 ♂ (B 3896). Insiza, S. Rhodesia. (G. French.)

*Colour*.—Carapace light brown; redder anteriorly, and infuscated laterally and centrally; legs yellowish brown. Abdomen dull



testaceous with median anterior dorsal band and rest of dorsal surface mottled, with large infuscated marks.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{3}$  tarsus I; anterior width equal to  $\frac{1}{2}$  greatest width.

*Eyes*.—Anterior row procurved, laterals subequal to the medians. Posterior row procurved, medians large, angular, and contiguous; laterals smaller than the anterior laterals; median ocular area longer than wide, and wider posteriorly. Anterior laterals nearly touching the border of the carapace.

*Chelicera*.—Superior border with 2 large contiguous teeth; inferior border with 2 smaller teeth.

*Legs*.—Anterior tarsi scopulate and slightly dilated; metatarsi also lightly scopulate, 2nd metatarsus bearing 0–1 spines on the under surface; posterior legs more heavily spined.

*Pedipalps*.—Tibia with anterior dorsal process; tarsus broad, palpal organ as in fig. 34.

*Measurements*.—Length of carapace, 2 mm. Total length, 5 mm.

#### DRASSODES SPLENDENS, n. sp. (Fig. 35.)

*Specimens*.—1 ♀ (B 4000 type). Insiza, S. Rhodesia. (G. French.)

*Colour*.—Carapace yellowish brown, darker anteriorly; chelicera medium brown; legs pale testaceous, slightly darker distally. Abdomen dull testaceous, the dorsal surface bearing a dark median band anteriorly, which extends over  $\frac{1}{3}$  the length; remainder of the dorsal surface bearing numerous distinct dark spots; ventral surface pale; integument clothed with appressed dark hairs.

*Carapace*.—Length equal to tibia and metatarsus I; anterior width equal to  $\frac{1}{2}$  greatest width.

*Eyes*.—Anterior medians nearly a diameter apart, and slightly nearer to the laterals, which are subequal to them in size. Posterior medians large, subangular, and nearly touching posteriorly; lateral eyes much smaller, and at least  $1\frac{1}{2}$  times their diameter from the medians. Median ocular area longer than wide, and considerably wider posteriorly.

*Chelicera*.—Superior margin bearing 3 teeth, inferior margin 2.

*Legs*.—Tarsus and metatarsus I scopulate to the base, and spineless; tibia without scopular hairs and also spineless; 2nd leg similar, with the addition of 2 basal spines on the under surface of the metatarsus. Tarsus III scopulate at the sides but with bristles down the centre; metatarsus bearing scopular hairs anteriorly at the sides of the under

surface, and armed with numerous spines. Tarsus and metatarsus IV similar but with fewer scopular hairs.

*Vulva*.—As in fig. 35.

*Measurements*.—Length of carapace, 4 mm. Total length, 9 mm.

DRASSODES STATIONIS, n. sp. (Fig. 36.)

*Specimens* :—

1 ♂ (B 2618 type). Hout Bay Mts., Cape Peninsula. (R. W. Tucker, October 1916.)

1 ♂ (B 5226). Vryburg. (J. S. Brown, May 1920.)

1 ♂ (14,507). Vryburg. (Du Toit, September 1905.)

1 ♂ (B 2764). Gt. Winterhoek Mts. (R. W. Tucker, November 1916.)

*Colour*.—Carapace light brown, darker around ocular region. Legs light yellowish brown. Abdomen testaceous, fairly regularly flecked with black over entire dorsal surface.

*Carapace*.—Length slightly less than tibia and metatarsus I. Anterior width  $\frac{1}{2}$  greatest width.

*Eyes*.—Anterior row procurved, medians larger than laterals. Posterior row straight to very slightly procurved; medians large, subangular, and nearly touching; nearly long diameter from the laterals, which are equal in size to the anterior laterals. Median ocular area slightly longer than wide, and scarcely wider posteriorly. Clypeus slightly less than the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 1 large tooth, with long, slightly serrated inner base; inferior border with 2 denticles. In a young female specimen the superior border has 1 large and 1 small tooth, and inferior border 2 small teeth.

*Legs*.—Tarsi I and II scopulate to base; metatarsus I spineless and scopulate almost to base; metatarsus II slightly less scopulate and with 2 basal spines on the under surface. Tarsus III with scopula and bristle-like hairs; tarsus IV with bristles only.

*Pedipalps*.—Tibia with blunt median anterior dorsal process. Palpal organ as in fig. 36.

*Measurements*.—Carapace, 2.1 mm. Total length, 5.1 mm.

DRASSODES TORTUOSUS, n. sp. (Fig. 37.)

*Specimens*.—1 ♀ (150,697 type). Howick, Natal. (Dr. W. F. Purcell, September 1905.)

*Colour*.—Carapace light brown with radiate infuscations, and

becoming darker anteriorly in the ocular area. Chelicera dark reddish brown, legs light brown; abdomen testaceous, with traces of dark marks anteriorly on the dorsal surface, and faint infuscated spots posteriorly.

*Carapace*.—Width across the ocular area exceeding  $\frac{1}{2}$  the greatest width. Length equal to tibia, metatarsus, and  $\frac{1}{2}$  tarsus I.

*Eyes*.—Anterior row well procurved; median eyes less than a diameter apart, and nearer to the laterals, to which they are subequal. Posterior row moderately procurved, medians subangular, close together, and slightly larger than the laterals. Median ocular area slightly longer than broad, and slightly wider posteriorly. Clypeus half the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior border with 2 stout teeth.

*Legs*.—Metatarsus I spineless; tibia without spines or scopular hairs. Metatarsus II bearing 2 spines basally on the under surface; tibia without spines or scopular hairs. Metatarsi III and IV with a few scopular hairs anteriorly.

*Vulva*.—As in fig. 37.

*Measurements*.—Carapace, 3 mm. in length. Total length, 7.5 mm.

#### GEN. DRASSODELLA, Hewitt.

##### *Key to Species.*

##### *Females.*

- (3). 1. Vulva without constriction of median depressed area.
- 2. Abdomen blackish brown, with 5 conspicuous white spots and 2-3 light arrow-shaped bands posteriorly; also 2 diffuse light spots on the lateral surfaces . . . . . *quinquelabecula*.
- (1). 3. Vulva with median depressed area constricted.
- (10). 4. Lateral projections into median area present.
- (8). 5. Length of carapace equal to tibia and slightly under or over  $\frac{1}{3}$  metatarsus of 4th leg.
- (7). 6. Abdomen greyish black, bearing a trace of 4-6 lateral and 1 terminal white spots dorsally . . . . . *melana*.
- (6). 7. Abdomen bright orange dorsally, coloured area sharply defined and broken only by a short median black streak anteriorly . . . *salisburyi*.
- (5). 8. Length of carapace equal to tibia and slightly under or over  $\frac{1}{2}$  of the metatarsus of 4th leg.
- 9. Abdomen brownish black, bearing 6 lateral and 1 terminal well-defined spots dorsally . . . . . *7-maculata*.
- (4). 10. Without lateral projections into the median area.
- (12). 11. Length of carapace equal to tibia and slightly under or over  $\frac{1}{3}$  metatarsus



- of 4th leg. Abdomen brownish black, with a long anterior white stripe down each side, followed by a separate white spot; terminal white spot inconspicuous . . . . . *vasivulva*.
- (11). 12. Length of carapace equal to tibia and slightly under or over  $\frac{1}{2}$  metatarsus of 4th leg. Abdomen dark brown dorsally, with a pair of anterior, a pair of anterior median, and a terminal white spot . . . . . *purcelli*.

*Males.*

- (4). 1. Stylus of palpal organ not hooked at extremity.  
 2. Length of carapace equal to tibia and slightly under or over  $\frac{1}{3}$  of metatarsus of 4th leg.  
 3. Stylus small, laminated and inconspicuous . . . . . *quinquelabecula*.
- (1). 4. Stylus of palpal organ hooked at extremity.
- (7). 5. Length of carapace equal to tibia and slightly under or over  $\frac{1}{3}$  metatarsus of 4th leg.  
 6. Stylus of palp broad at base and tapering gradually . . . . . *salisburyi*.
- (5). 7. Length of carapace equal to tibia and slightly under or over  $\frac{1}{2}$  metatarsus of 4th leg.  
 8. Stylus laminated, moderately short; basal portion suddenly broad, and transverse . . . . . *7-maculata*.

## DRASSODELLA MELANA, n. sp. (Fig. 38.)

*Specimens* :—

- 1 ♀ (B 4175 Type). Mfongosi, Zululand. (W. E. Jones, February 1918.)  
 3 ♀♀ (B 3610). Krantzkop, Natal. (K. H. Barnard, November 1917.)

*Colour*.—Carapace dark mahogany brown, darker towards the borders; surface sparsely clothed with appressed yellowish-white hairs, and with a narrow margin of white hairs laterally. Abdomen greyish black dorsally, bearing very sparse white hairs and a trace of 4–6 lateral and 1 terminal white spots; under surface slightly lighter. Legs, especially the femora, very dark; tarsi lighter; femur I with a light spot on the inner and on the outer surface; tibia I light and densely clothed with white plumose hairs; similar hairs scattered all over the legs, especially on the coxae.

*Carapace*.—Clypeus subequal to the diameter of an anterior lateral eye.

*Eyes*.—Anterior row straight and compact; median eyes slightly smaller than the laterals, nearly touching each other, and touching the laterals. Posterior row straight to slightly recurved; medians a little smaller than the laterals, and slightly nearer to each other than to the laterals.

*Chelicera* and sternum normal.

*Legs*.—Tarsus and metatarsus I slightly scopulated and spineless. Tarsus and metatarsus II scopulate to the base and also spineless. Tarsus III scopulate; metatarsus without scopular hairs, but bearing numerous stout spines. Tarsus IV with a few scopular hairs laterally and bristles centrally; metatarsus long and strongly spined.

*Pedipalps*.—As in *7-maculata*.

*Vulva*.—As in fig. 38.

*Measurements*.—Carapace, 2.7 mm. Total length, 7 mm.

The specimens from Krantzkop are even darker than the type, and bear fewer white hairs.

DRASSODELLA PURCELLI, n. sp. (Fig. 39.)

*Specimens*:—

1 ♀ (150,465 type). Matjesfontein. (Dr. W. F. Purcell, August 1906.)

2 ♀♀ (3971). Touws River Stn., Worcester Div. (Dr. W. F. Purcell, September 1896.)

*Colour*.—Carapace medium brown, slightly infuscated; lateral white border very faint. Posterior legs approximately the same colour as the carapace; anterior legs darker as far as the patellae and lighter onwards; tibia of 1st leg banded with white hairs as in *quinquelabecula*. Abdomen dark brown dorsally, and darker posteriorly; surface smooth and bearing a pair of anterior and a pair of median anterior white spots, and 1 terminal spot; under surface slightly paler.

*Carapace*.—Clypeus slightly narrower than  $\frac{1}{2}$  the diameter of an anterior lateral eye.

*Eyes*, sternum, etc., normal.

*Chelicera*.—Superior border with 3 teeth, inferior border with 2 teeth.

*Legs*.—Tarsus and metatarsus I scopulate; tibia also with scopular hairs anteriorly. Tarsus and metatarsus II scopulate; metatarsus apparently spineless. Tarsus III scopulate, metatarsus armed with bristles and spines on the lower surface. Tarsus IV furnished with stout bristles and a few scopular hairs on the under surface.

*Vulva*.—As in fig. 39; allied to *quinquelabecula*.

*Measurements*.—Length of carapace, 1.6 mm. Total length, 4.4 mm.

DRASSODELLA QUINQUELABECULA, n. sp. (Fig. 40, A and B.)

*Specimens*.—1 ♀ and jv. (150,065 types), and 1 ♂ (150,440). Caledon. (Dr. W. F. Purcell, July 1910.)

♀ *Colour*.—Carapace medium brown, very slightly infuscated, with lateral white border and scattered white hairs over the entire surface. Legs slightly lighter than the carapace and bearing sparse white hairs which are more numerous on the coxae; tibiae of the 1st legs lighter than the other segments, save for a dark basal band, and conspicuously clothed with white hairs; patellae almost black; femora with the lateral light patches inconspicuous. Tibiae of 2nd legs also slightly lightened; otherwise the legs are darker distally. Abdomen blackish brown on the dorsal surface, ornamented with 5 conspicuous spots and with 2 or 3 light arrow-shaped bands between the posterior and the 2 median spots; also with 2 diffuse light spots on the lateral surfaces; ventral surface paler. The jv. specimen is much darker, and shows the colour markings more prominently, especially on the 1st legs.

*Carapace*.—As in *7-maculata*; clypeus much narrower than the diameter of an anterior lateral eye.

*Eyes*.—As in *7-maculata*; the posterior medians slightly nearer to the laterals than to each other.

*Chelicera*.—With 2 inferior and 3 superior teeth; the fang not so stout or so sinuous basally as in *7-maculata*.

*Sternum*.—Slightly longer than broad.

*Legs*.—Tarsus and metatarsus of the 1st leg scopulate; metatarsus bearing 1 basal spine on the under surface; 2nd leg similar, but the metatarsus with 2 basal spines. Tarsus III scopulate; metatarsus longer, stouter, and strongly spined. Tarsus IV with no scopula, but with bristles on the under surface. All the tarsi bearing claws and fascicles; those of the anterior legs being much shorter than those of the posterior.

*Pedipalps*.—Tarsal claw very small.

*Vulva*.—As in fig. 40A.

♂ *Colour*.—As in ♀, but with fewer white hairs on the carapace; the legs also become lighter distally, and the abdomen is darker and lacks the arrow-like markings posteriorly.

*Carapace*.—Clypeus only slightly narrower than the diameter of an anterior lateral eye.

*Eyes*.—As in ♀.

*Chelicera*.—Fang longer than in ♀, and slightly more sinuous.

*Legs*.—Tarsus of 1st leg scopulate; metatarsus scopulate anteriorly, and bearing no spines; 2nd leg similar, but with 2 basal spines on the metatarsus. Tarsus III scopulated; metatarsus III bearing numerous spines; also bristles, especially anteriorly, on the under surface. Tarsus IV with no scopular hairs, but furnished with



bristles on the under surface ; metatarsus slightly exceeding twice its length.

*Pedipalps*.—Tibia longer than the patella, and about  $\frac{2}{3}$  the length of the tarsus ; and furnished on the outer apical border with a short curved projection. Tarsus bearing the usual scopular patch. Palpal organ as in fig. 40B.

*Measurements*.—Length of carapace, ♀ 2 mm., ♂ 1.8 mm. Total length, ♀ 4 mm., ♂ 3.6 mm.

1 ♀ (B 3484). Matroosberg Mts., 4000 ft. (R. W. Tucker, November 1917.)

DRASSODELLA SALISBURYI, Hewitt.

1916. *D. salisburyi*. Hewitt in Ann. Transv. Mus., vol. v (3), p. 209, fig. 9, A–E.

*Specimens* :—

1 ♀ type. (Grahamstown Museum), Grahamstown. (February 1915.)

1 ♂ (B 3332), Grahamstown. (J. Hewitt.)

♀ *Colour*.—Carapace dark mahogany brown, narrowly fringed with white hairs, and with a short median posteriorly bifurcated band of white hairs. Legs similar in colour, but lighter and redder distally ; also bearing white and orange hairs. Dorsal surface of abdomen clothed with orange-coloured hairs, and with a short anterior median black stripe. Femur I with light spot on inner and outer surfaces.

*Carapace*.—Equal in length to tibia and metatarsus I, and to tibia and  $\frac{1}{3}$  metatarsus IV.

*Clypeus*.—Slightly greater than the diameter of an anterior lateral eye.

*Eyes*.—Anterior row slightly procurved, medians smaller than the laterals and nearer to them ; posterior row recurved, wider than the anterior row ; medians smaller than the laterals and nearer to them than to each other.

*Chelicera*.—Superior border with 3 teeth, inferior with 2.

*Legs*.—Tibia I scopulate anteriorly, laterally, and bearing 2 median and 2 basal spines ; tibia II without scopula, and with 1 median and 1 basal spine.

*Vulva*.—As in fig 9E, *loc. cit.*

*Measurements*.—Length of carapace, ♀ 3.2 mm. ; ♂ 4 mm.

♂ *Colour*.—As in ♀.

*Carapace*.—Equal in length to tibia and  $\frac{5}{6}$  metatarsus I, and to tibia and about  $\frac{1}{3}$  metatarsus IV.

*Clypeus*.—Equal to  $1\frac{1}{2}$  times the diameter of an anterior lateral eye.

*Eyes*.—As in ♀.

*Chelicera*.—Superior border with 3 teeth, inferior with 2.

*Legs*.—Tibia I not scopulate anteriorly, and with 2 median and 2 basal spines on under surface.

*Pedipalps*.—Palpal organ as in fig. 9, B and C, *loc. cit.*

DRASSODELLA 7-MACULATA, Strand. (Fig. 41, A and B.)

1903. *Prosthesima 7-maculata*. Strand in Deutsche Sudpolar Expedition, 1901–1903, Bd. x, "Zool.," vol. ii, p. 554.

Strand's species is founded on a single ♀ specimen from Miller's Point, Simonstown, Cape, July 1903. I have not been able to see the type, but those described below from the Cape and elsewhere coincide with Strand's description, and are undoubtedly the same species.

*Specimens*.—1 ♂ and 4 ♀♀ (8521 types), Signal Hill (Dr. W. F. P., April 1900); also from various localities noted below.

♀ *Colour*.—Carapace infuscated brown, with a lateral border and a sparse median stripe of slightly plumose white hairs; basal portions of legs also with a few white hairs; legs slightly paler than the carapace and lighter from the patellae onwards; femora of first legs with conspicuous light patches on the inner and outer surfaces. Abdomen brownish black, with 7 conspicuous white spots on the dorsal surface, 6 lateral and 1 terminal posteriorly; the 2 anterior spots are often elongated posteriorly; ventral surface of abdomen paler.

*Carapace*.—Surface moderately convex, and sloping fairly abruptly posteriorly to the stria. Clypeus equal in depth to the diameter of an anterior lateral eye.

*Eyes*.—Front row straight to very slightly procurved; laterals larger than the medians. Posterior row recurved, wider than the anterior row, and well separated from it; eyes practically equidistant, and the medians slightly smaller than the laterals. Median ocular area longer than wide, and narrower anteriorly.

*Chelicera*.—Inferior border with 2 teeth, superior border with 3 stout teeth; fang strong and slightly sinuous towards the base.

*Sternum*.—Shield-shaped; breadth subequal to the length.

*Legs*.—Tarsus I moderately long and slender, densely scopulated and spineless; metatarsus about the same length, slightly stouter, and also scopulated and spineless; tibia sometimes with a few scopular hairs anteriorly; 2nd leg similar, but with 2 spines basally on the under surface of the metatarsus, and no scopular hairs on the

tibia. Tarsus III spineless, and with a scopula of more bristle-like hairs; metatarsus strongly spined, longer and darker. Tarsus IV with sparse scopular hairs laterally, and moderately stout bristles centrally; metatarsus long and strongly spined. All tarsi furnished with fascicles; claws small, the posterior ones being longer, but less strongly toothed.

*Pedipalps*.—Tibia longer than the patella; tarsus subequal to the patella and tibia, and bearing a strongly toothed apical claw; all segments armed with spines, the femur bearing only 3–4 weak dorsal spines distally.

*Vulva*.—As in fig. 41A.

♂ *Colour*.—Slightly lighter than the ♀.

*Eyes*.—As in ♀; posterior medians slightly nearer to the laterals than to each other.

*Chelicera*.—Very stout; fang long, stout, and slightly sinuate. Inferior border of groove with 2 widely separated teeth, superior border with 3–4 teeth.

*Legs*.—Tarsus I scopulate, but bearing no spines; metatarsus slightly stouter and longer and bearing a few scopular hairs and stiff, bristle-like hairs; similarly with the 2nd leg, but the scopulae are more scanty, and the bristles on the metatarsus are more numerous; the latter has also 1 weak spine basally on the under surface. Tarsus III slender, scopulate, and spineless, and about equal in length to the metatarsus; metatarsus and tibia heavily spined. Tarsus IV slender, bearing a very few scopular hairs, clothed with sparse bristles and spineless; metatarsus  $1\frac{2}{3}$  times as long as the tarsus, and, together with the tibia, heavily spined.

*Pedipalps*.—Femur armed with 3 short distal spines on the dorsal surface; patella spineless; tibia, together with the patella, bearing numerous long spiniform hairs; the former also with a finger-like apical projection on the outer side; tarsus furnished with a dense scopula on the anterior dorsal portion. (*D. salisburyi*, Hewitt, is similarly scopulated.) Palpal organ as in fig. 41B.

*Measurements*.—Length of carapace, ♀ 2.5 mm., ♂ 2.1 mm. Total length, ♀ 6 mm., ♂ 5 mm.

This species occurs also in the following localities:—

Gt. Winterhoek Mts. at an altitude of 4000–5000 ft.; Tulbagh; R. W. Tucker, April 1916; 1 ♀ (B 2550). This specimen is almost black in colour, and has the abdominal spots very small.

Matroosberg Mts., Ceres, at an altitude of about 3500 ft.; R. W. Tucker, January 1917; 3 jv. specs. (B 2991).



Piquetberg Rd. Station, Tulbagh Div.; R. M. Lightfoot, August 1898; 1 ♀ (3998); slightly lighter in colour, and with the abdominal spots very faint; legs and dorsal surface of abdomen also bearing a sparse clothing of orange-coloured hairs.

Bergvleit, Diep River, Cape Flats; Dr. W. F. Purcell, July 1905; 1 ♀ (B 3343); spots on abdomen very faint.

St. James, C. Penins; Dr. W. F. Purcell, April 1901; 3 ♀♀ (9195).

Kalk Bay Mts., C. Penins; Dr. W. F. Purcell, February 1902; 2 ♂♂ and 3 jv. ♀♀ (12,311).

Hout Bay, C. Penins; Dr. W. F. Purcell, March 1898; 1 ♂ (4344), 1 jv. ♂ (B 1146); R. W. Tucker, April 1915.

Cape Town, E. A. Morris, July 1898; 1 ♀ (4330), 1 ♀ (3081); R. M. Lightfoot, September 1897. In both of these the abdominal spots are inconspicuous.

Table Mt., Platteklip Ravine; R. W. Tucker, April 1915; 1 ♂ (B 1158); Dr. W. F. Purcell, April 1900, 1 ♀ (8563).

Table Mt., slopes in woods; R. W. Tucker, August 1915; 1 ♀ (B 2550). Similar in colour to the Tulbagh specimen.

Signal Hill, Cape Town; Dr. W. F. Purcell, May 1904; 1 ♀ (12,082); July 1901, 1 ♀ (8974).

#### *DRASSODELLA VASIVULVA*, n. sp. (Fig. 42.)

*Specimens*.—1 ♀ (No. 876 type). Knysna. (Dr. W. F. Purcell, March 1906.)

*Colour*.—Carapace medium brown, slightly mottled with black, only faintly bordered with white hairs, and with a sparse strip of white hairs down the centre. Legs paler than the carapace and lighter distally; femora of 1st legs with lateral light patches. Dorsal surface of abdomen brownish black, with a long anterior white stripe down each side followed by a separate white spot; terminal white spot inconspicuous; ventral surface paler.

*Carapace*.—Clypeus subequal to the diameter of an anterior lateral eye.

*Eyes*.—As in *7-maculata*.

*Chelicera*.—Fang stout but not sinuous; cheliceral groove long, and superior border with 3 teeth, and inferior border with 2 smaller teeth.

*Sternum*.—Breadth subequal to the length.

*Legs*.—Tarsus, metatarsus, and anterior outer portion of tibia of the 1st leg scopulate. Tarsus and metatarsus of 2nd leg scopulate, the metatarsus bearing 2 basal spines on the under surface. Tarsus III

with a coarse scopula ; tarsus IV furnished with bristles on the under surface.

*Pedipalps*.—Tarsus shorter than the tibia and patella.

*Vulva*.—As in fig. 42.

*Measurements*.—Length of carapace, 2.5 mm. Total length, 6 mm.

GEN. LEPTODRASSUS, Sim.

LEPTODRASSUS BERGENSIS, n. sp. (Fig. 43.)

*Specimens* :—

2 ♀♀ (B 3475 types). Matroosberg Mts., Ceres, 4000 ft. (R. W. Tucker, November 1917.)

1 ♀ (B. 3536). Matroosberg Mts., Ceres, 4000 ft. (R. W. Tucker, December 1917.)

*Colour*.—Carapace, legs, and sternum yellowish brown ; sternum dark-edged. Abdomen greyish in colour, paler ventrally.

*Eyes*.—As in text-fig. 322, p. 355, Simon's Hist. Nat. des Araign ; posterior medians subangular, and larger than the laterals.

*Chelicera*.—Superior border indistinct and muticous ; inferior border dark, thickened along its entire length, and bearing 2 strong teeth, of which the 2nd is larger and slightly curved.

*Labium*.—Slightly longer than broad, tapering anteriorly, and reaching from  $\frac{1}{2}$ — $\frac{2}{3}$  the length of the maxillae, which are inclined inwards.

*Sternum*.—Shield-shaped, broad anteriorly, and produced in the median portion to the base of the labium.

*Legs*.—Tarsi scopulate to the base and with bristly hairs intermixed ; also bearing fascicles and strongly dentate claws ; metatarsus I bearing a few scopular hairs anteriorly and 2 basal spines on the under surface ; 2nd leg similar, but with fewer scopular hairs and with more numerous spines. Legs in general hairy and moderately spined.

*Spinners*.—Inferior spinners close together, but short, stout, and sub-cylindrical ; median spinners much slenderer, superior spinners slightly longer and slenderer than the inferiors.

*Vulva*.—As in fig. 43. In the other specimens the vulva is dark brown down the entire central length, and the lateral markings are hidden by the darker colour of the surrounding tissue.

*Measurements*.—Length of carapace, 1.9 mm. Total length, 5.8 mm.

One other species of this genus is recorded from Northern Africa, *Leptodrassus scutatus* (Sim.), Bull. Soc. Zool. Fr., vol. iv, p. 262, from oases of Biskra.

## ECHEMEAE.

*Key to Genera.*

- (8). 1. Cephalothorax without median stria.  
 (3). 2. Labium 3 times as long as wide ; maxillae longer. Anterior row of eyes straight or nearly straight . . . . . *Sergiolus*.  
 (2). 3. Labium scarcely twice as long as wide ; maxillae broader basally, curving inwards, and not greatly exceeding the length of the labium. Anterior row of eyes procurved.  
 (5). 4. Anterior median eyes much smaller than the laterals. Clypeus narrower than the lateral eyes . . . . . *Setaphis* (*ad part*).  
 (4). 5. Anterior median eyes larger than the laterals.  
 (7). 6. Cephalothorax ovate. Clypeus wider than an anterior eye. *Aphantaulax*.  
 (6). 7. Cephalothorax long and flat. Clypeus narrow, almost non-existent.  
*Ladissa*.
- (1). 8. Cephalothorax with median stria.  
 (29). 9. Posterior row of eyes procurved.  
 (16). 10. Posterior medians round, equidistant from the laterals and from each other, or nearer to the laterals ; smaller than the laterals.  
 (14). 11. Abdomen with plumose hairs.  
 (13). 12. Posterior row of eyes strongly procurved . . . . . *Herpyllus*.  
 (12). 13. Posterior row moderately procurved ; median eyes larger than the laterals . . . . . *Trichothyse*.  
 (11). 14. Abdomen without plumose hairs.  
 15. Clypeus twice the diameter of an anterior lateral eye ; labium slightly longer than broad ; maxillae inclined inwards and broader anteriorly.  
*Epikurtomma*.
- (10). 16. Posterior median eyes oval or subangular, subcontiguous but separate from the laterals ; larger than the laterals, or at least not smaller than them.  
 (19). 17. Posterior row of eyes moderately procurved.  
 18. Anterior median eyes smaller than the laterals ; posterior medians larger than the laterals, angular, and contiguous posteriorly. Metatarsi III and IV each with apical comb of bristles ; metatarsi usually not scopulate . . . . . *Camillina*.  
 (17). 19. Posterior row of eyes strongly procurved.  
 (21). 20. Posterior median eyes subcontiguous, but remote from the laterals.  
*Megamyrmecion*.
- (20). 21. Posterior median eyes subcontiguous also to the laterals.  
 (28). 22. Posterior median and lateral eyes subequal.  
 (25). 23. Inferior border of chelicera strongly dentate.  
 24. Inferior border of chelicera with 4 thick contiguous teeth, superior border with 2-3 teeth . . . . . *Maniana*.  
 (23). 25. Inferior border of chelicera weakly dentate.  
 (27). 26. Superior border of chelicera minutely bidentate . . . . . *Echemus*.  
 (26). 27. Superior border of chelicera with 5 teeth . . . . . *Echemella*.  
 (22). 28. Posterior median eyes much larger than the laterals . . . . . *Mulicymnis*.  
 (9). 29. Posterior row of eyes almost straight.



- (37). 30. Posterior row of eyes not, or scarcely, wider than the anterior row.
- (32). 31. Posterior eyes equidistant from each other, or medians slightly further from the laterals than from each other. Metatarsi III and IV bearing each an apical comb of bristles . . . . . *Zelotes*.
- (31). 32. Posterior median eyes well separated from each other, but scarcely, or not, separated from the laterals.
- (36). 33. Anterior eyes equal. Clypeus at least twice the diameter of an anterior lateral eye.
- (35). 34. Maxillae broad at base and inclined inwards at apices . . . . . *Cesonia*.
- (34). 35. Maxillae not curved inwards, straight, and enlarged anteriorly. . . . . *Bonna*.
- (33). 36. Anterior median eyes much smaller than the laterals. Clypeus narrower than anterior eyes . . . . . *Setaphis (ad part)*.
- (30). 37. Posterior row much wider than the anterior row.
- (43). 38. Superior margin of chelicera short, transverse, and slightly emarginate; muticous or minutely dentate at a somewhat prominent angle.
- (40). 39. Cephalothorax wide in front, convex. Posterior row of eyes lightly procurved; median eyes elongate, triquetrous, and close together. Anterior or median eyes slightly larger than the rest . . . . . *Phaeoedus*.
- (39). 40. Cephalothorax oval, strongly narrowed in front. Posterior row of eyes lightly procurved, occasionally straight; median eyes round, widely distant from each other. Median anterior eyes more or less larger than the remainder.
- (42). 41. Maxillae short, curved inwards, broad at base, not carinate on inner margin . . . . . *Poecilochroa*.
- (41). 42. Maxillae resembling Lamponeae, long, and carinate on inner margin. . . . . *Latonigena*.
- (38). 43. Superior margin of chelicera very oblique, long, and armed with 2-3 teeth.
- (49). 44. Labium much longer than broad, and reaching to inner apices of maxillae.
- (48). 45. Sternum produced anteriorly. Posterior row of eyes slightly procurved. Distance between lateral eyes slightly less than between anterior and posterior median eyes.
- (47). 46. Lateral margin of maxillae narrowly keeled, surface depressed between keels . . . . . *Diaphractus*.
- (46). 47. Maxillae not keeled . . . . . *Scotophaeus*.
- (45). 48. Sternum not produced anteriorly. Posterior row of eyes moderately to strongly procurved; medians large, oblique, and close together. Distance between lateral eyes much less than between anterior and posterior medians . . . . . *Xerophaeus*.
- (43). 49. Labium not, or scarcely, longer than wide, and not exceeding  $\frac{1}{2}$  the length of the maxillae . . . . . *Micythus*.

Subsequent to the compilation of this key, reference to Bank's genus *Drassinella* was found in Proc. Californian Acad. of Sciences, 3 ser., vol. iii, 1904, p. 335.

From the account given, the genus is allied to, and should fit in near, *Poecilochroa*.

Of the other genera, *Sergiolus*, *Herpyllus*, *Mulicymnis*, *Cesonia*,

*Bonna*, *Micythus*, *Phaeocedus*, do not occur in Africa at all, and *Ladissa*, *Echemella*, and *Maniana* are only recorded north of the region here dealt with.

GEN. SETAPHIS, Simon.

*Key to Species.*

*Females.*

- (8). 1. Superior border of chelicera with 3 or less teeth, inferior border muticous.  
 (7). 2. Posterior row of eyes straight. Length of carapace equal to tibia, metatarsus, and  $\frac{1}{2}$  or more tarsus I, and to metatarsus and over  $\frac{1}{2}$  tarsus IV.  
 (4). 3. Posterior median eyes  $1\frac{1}{2}$  or more long diameters apart . . . *bilinearis*.  
 (3). 4. Posterior median eyes less than  $1\frac{1}{2}$  long diameters apart.  
 (6). 5. Clypeus equal to or less than diameter of anterior lateral eye. Vulva with anterior dark crescent . . . . . *bechuanica*.  
 (5). 6. Clypeus greater than diameter of anterior lateral eye. Vulva without anterior dark crescent . . . . . *calviniensis*.  
 (2). 7. Posterior row of eyes procurved . . . . . *anchoralis*.  
 (1). 8. Superior border of chelicera with more than 3 teeth; inferior border with 1 denticle (or more).  
 (11). 9. Posterior row straight.  
 10. Posterior medians less than  $1\frac{1}{2}$  long diameters apart; metatarsus II bearing spines on under surface . . . . . *bulawayensis*.  
 (9). 11. Posterior row procurved.  
 12. Posterior medians  $1\frac{1}{2}$  or more diameters apart. Metatarsus II not spined . . . . . *arcus*.

*Males.*

- (4). 1. Superior border of chelicera with 3 or less teeth; inferior border with 0. Length of carapace equal to or less than tibia and metatarsus I, and equal to metatarsus and  $\frac{1}{2}$  or more tarsus IV.  
 (3). 2. Posterior median eyes less than  $1\frac{1}{2}$  long diameters apart . . . *bechuanica*.  
 (2). 3. Posterior median eyes over  $1\frac{1}{2}$  diameters apart . . . . . *lightfooti*.  
 (1). 4. Superior border of chelicera with more than 3 teeth; inferior border with 1 (or more) denticles. Length of carapace greater than tibia and metatarsus I, and less than  $\frac{1}{2}$  tarsus I . . . . . *calviniensis*.

SETAPHIS ANCHORALIS, Purc.

1908. *S. anchoralis*. Purcell in Schultze, Zool. Forschungsreise in Sudafrika, vol. i, p. 240, pl. xi, fig. 27.

One ♀ from Luderitz Bay (Angra Pequena), Gt. Namaqualand. January 1904.

*Colour*.—Cephalothorax brown, sparsely clothed with black hairs, densely covered with fine infuscated dots, the head with a fine, double,

median black stripe; the femora of all the legs, the patellae, and trochanters of the 2 anterior pairs and the tibia of the 1st pair more or less deeply infuscated, the remaining segments pale yellow; chelicera reddish brown with infuscate lines; sternum ochraceous in the middle, infuscated at the sides; abdomen coloured as in *S. bechuanica*, Purc., except that the 2 posterior white spots are absent.

*Cephalothorax*.—Broad in front, the cephalic region considerably elevated. Ocular area remote from anterior margin, the clypeus being more than twice the width of an anterior lateral eye; anterior row of eyes procurved, the lateral eyes rather small, but larger than the medians and quite close to them; posterior row of eyes distinctly a little wider than the anterior row, slightly procurved, the lateral eyes slightly smaller than the anterior laterals, the medians very small, subrotund, much nearer to the laterals than to each other.

*Chelicera*.—Robust, with 1 large and 2 smaller teeth on the superior margin, but no inferior tooth; the claw very stout and strong.

*Legs*.—1st pair not spined, the tarsus and metatarsus scopulate below, 2nd pair with an outer row of 2 long spines below; metatarsus III with a dense distal tuft of black hairs, IV with a small tuft at apex below.

*Abdomen*.—Rather broad posteriorly, with deep median groove in front, the anterior end appearing emarginate.

*Vulva*.—As in pl. xi, fig. 27, *loc. cit.*; very like that of *S. bechuanica*, Purc.; the fovea longitudinal and close to the 2 spherical brown bodies.

Length of cephalothorax and abdomen 6 mm.

This species is very abnormal, and may perhaps form a different genus.

SETAPHIS ARCUS, n. sp. (Fig. 44.)

*Specimens*:—

1 ♀ (150,665). Warmbaths, Transvaal. (Dr. W. F. Purcell, September 1905.)

2 ♀♀ (B 3683). Junction, Marico and Crocodile Rivers, N.W. Transvaal. (R. W. Tucker, February 1918.)

1 ♀ (Grahamstown Museum). Queenstown. (G. Rattray.)

*Colour*.—As in *calviniensis*, etc.; carapace and legs scarcely infuscated.

*Carapace*.—Length equal to tibia, metatarsus, and  $\frac{1}{3}$ – $\frac{1}{2}$  tarsus I, and to metatarsus and at least  $\frac{1}{2}$  tarsus IV.

*Clypeus*.—Scarcely half as wide as an anterior lateral eye.



*Eyes*.—Posterior row moderately procurved; medians smaller than the laterals, and  $1\frac{1}{2}$  diameters from each other and  $\frac{1}{2}$  diameter from laterals.

*Chelicera*.—Superior border with 4 teeth; inferior border with 1 blunt denticle.

*Legs*.—As in *calviniensis*. Tibia I without scopula or spines. Metatarsus III with strong apical comb; metatarsus IV with a small median apical comb.

*Vulva*.—As in fig. 44.

*Measurements*.—Length of carapace, 2.2 mm. Total length, 5.8 mm.

Specimens recorded under B 3683, N.W. Transvaal, are very much darker than the type; the carapaces are strongly infuscated, and the legs are marked with broad longitudinal dark bands as far as the metatarsi. Abdominal white marks also appear smaller. Vulvae also are dark brown in colour, so that the bow-like markings are somewhat obscured.

#### SETAPHIS BECHUANICA, Purc. (Fig. 45.)

1908. *S. bechuanica*. Purcell in Schultze, Zool. Forschungsreise in Sudafrika, vol. i, p. 240, pl. xi, fig. 26, ♀.

*Specimens* :—

1 ♀ (150, 604, *ex typis*). Bonce, Kalahari. (L. Schultze, January 1905.)

1 ♀ and 1 ♂ (B 5003). Otjituo, S.W. Prot. (R. W. Tucker, January 1920.)

♀ *Carapace*.—Length equal to or exceeding metatarsus and tarsus IV, and equal or subequal to tibia and metatarsus IV; also equal to tibia, metatarsus, and  $\frac{1}{2}$ — $\frac{3}{4}$  tarsus I.

*Clypeus*.—Equal to diameter of anterior lateral eye.

*Eyes*.—Posterior row straight; medians only slightly smaller than the laterals, just over a diameter apart, and  $\frac{1}{2}$  a diameter from the laterals. Median ocular area broader than long, wider posteriorly.

*Chelicera*.—Superior border with 2 very large teeth, inferior muticous.

*Legs*.—Metatarsus I scopulate and spineless; tibia I with no scopula and spineless. Metatarsus III with a strong apical comb, IV with none.

*Measurements*.—Length of carapace, 2 mm.

♂ *Colour*.—Carapace orange brown, slightly infuscated anteriorly and laterally; femora and often patellae of legs olivaceous black,

distal portion medium brown. Abdomen testaceous dorsally and ventrally; sparsely clothed with dark hairs and bearing a small brown scutum dorsally. Spinners olivaceous black. Sternum, mouth-parts, etc., orange brown.

*Carapace*.—Length subequal to tibia and metatarsus I and to metatarsus and  $\frac{2}{3}$  tarsus IV.

*Eyes*.—Anterior row procurved; laterals a little larger than the medians and touching them. Posterior row straight, medians oblique, a long diameter apart; laterals not greatly larger, and about a short diameter from the medians, and nearly touching and equal in size to the anterior laterals. Median ocular area slightly longer than broad, much broader posteriorly.

*Chelicera*.—Superior border with 3 teeth; inferior muticous.

*Clypeus*.—Less than diameter of anterior lateral eye.

*Legs*.—Tarsus I scopulate; metatarsus with 2 pairs of spines on the under surface. Tibia also with 2 pairs of fine spines. Tarsus II with fewer scopular hairs and more bristles on the under surface; also with 2 pairs of strong spines on the under surface. Tarsi III and IV not scopulate, but clothed with stout bristles; metatarsi heavily spined; metatarsus III with no apical comb; IV with a weak apical comb on inner side. No fasciculi on tarsi.

*Pedipalps*.—As in fig. 45.

*Measurements*.—Carapace, 1.8 mm. Total length, 4.5 mm.

SETAPHIS BILINEARIS, n. sp. (Fig. 46.)

*Specimens*:—

1 ♀ (11,852 type). Hanover. (S. C. Schreiner, March 1902.)

1 ♀ (11,848). Hanover. (S. C. Schreiner, February 1902.)

1 ♀ (9981). Hanover. (S. C. Schreiner, January 1902.)

1 ♀ (B 4229). Pemba, S. Rhodesia. (Fr. Casset, November 1918.)

1 ♀ (Grahamstown Museum). Steytlerville. (Miss B. Geard, December 1916.)

*Colour*.—As in *calviniensis*; femora III and IV are, however, only infuscated apically, the basal portions being pale.

*Carapace*.—Length equal to tibia, metatarsus, and  $\frac{1}{2}$  tarsus I, and to metatarsus and  $\frac{3}{4}$  tarsus IV.

*Eyes*.—As in description of *calviniensis*, the anterior row being slightly wider and less procurved, and the posterior row straight to procurved; posterior medians smaller than laterals, 2 diameters apart,

less than  $\frac{1}{2}$  a diameter from the laterals. Median ocular area longer than broad, broader posteriorly.

*Clypeus*.—About equal to the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior border muticous.

*Legs*.—Tarsi I and II moderately scopulate; III and IV bearing stout bristly hairs on the under surface. Metatarsi I and II spineless and sparsely scopulate. Tibia I without spines or scopula. Metatarsi III and IV well spined; III bearing distinct apical comb, IV with comb faint or absent.

*Vulva*.—As in fig. 46; in the other specimens from Hanover the two median lines are not so clearly defined as in the type.

*Measurements*.—Length of carapace, 2 mm. Total length, 5.5 mm.

SETAPHIS BULAWAYENSIS, n. sp. (Fig. 48.)

*Specimens* :—

1 ♀ (B 3306 type). Bulawayo, S. Rhodesia. (R. W. Tucker, May 1917.)

1 ♀ (B 3885). Insiza, S. Rhodesia. (G. French.)

*Colour*.—Carapace dark brown, with almost black border and mottled towards the centre. Coxae of legs pale; anterior legs as far as patellae dark brown and infuscated, metatarsi and tarsi light brown; femora of remaining legs slightly infuscated, otherwise legs pale brown. Abdomen black dorsally, with an anterior lateral spot, faintly connected with a large median lateral spot, on each side. Diffuse light spot on each side of the under surface, meeting midway between the vulva and spinners. Sternum, mouth-parts, etc., medium brown.

*Carapace*.—Length equal to tibia, metatarsus, and  $\frac{1}{3}$  tarsus I, and to metatarsus and  $\frac{2}{3}$  tarsus IV.

*Eyes*.—As in description of *calviniensis*. Posterior row straight; median eyes inclined inwards, smaller than the laterals, less than a long diameter from each other, and a short diameter from the laterals.

*Clypeus*.—Nearly equal to the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 4 teeth, the 2 central ones larger; inferior border with 1 small denticle near base of fang.

*Legs*.—Tarsi I and II lightly scopulate; tarsi III and IV clothed with bristles on the under surface. Metatarsus I with a few scopular hairs anteriorly; tibia I without spines; metatarsus II with no scopular hairs and 1 basal spine on the inner side of the under surface; metatarsus III well spined, and with a slight comb of bristles



apically on the under surface; metatarsus IV more heavily spined; also with a sparse, irregular comb of bristles on inner side.

*Vulva*.—As in fig. 48.

*Measurements*.—Length of carapace, 2 mm. Total length, 5 mm.

SETAPHIS CALVINIENSIS, n. sp. (Fig. 47, A and B.)

*Specimens*.—2 ♂♂ and 1 ♀ (13,200 types). Calvinia. (C. French, January 1903.)

♀ *Colour*.—Carapace reddish brown, infuscated marginally; legs brown, slightly paler distally, femora and patellae infuscated. Abdomen brownish black, with 2 small anterior and 2 larger median light spots on the dorsal surface; the median spots extend laterally, each nearly meeting a large ventro-lateral white spot. Sternum, mouth-parts, etc., reddish brown; coxae lighter brown.

*Carapace*.—Length equal to tibia, metatarsus, and  $\frac{1}{2}$  tarsus I, and to metatarsus and  $\frac{2}{3}$  tarsus IV.

*Eyes*.—Anterior row compact and strongly procurved; medians slightly smaller than the laterals; posterior row scarcely wider, straight to slightly recurved; medians much smaller than the laterals, slightly inclined inwards, more than a long diameter from each other, and  $\frac{1}{2}$  a long diameter from the laterals. Median ocular area longer than wide and wider posteriorly.

*Clypeus*.—Very slightly wider than an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior border muticous.

*Labium*.—Long and parallel-sided, rounded anteriorly, and just surpassing the inner apices of the maxillae; central portion raised and separated from the margins by a slight groove.

*Legs*.—Tarsi and metatarsi I and II scopulate but bearing no spines, tibia I with no spines or scopula; tarsi III and IV without scopulae, but clothed on the under surface with stout bristles; rest of legs III and IV heavily spined; metatarsus III with a strong apical comb; metatarsus IV with a few setae arranged comb-fashion.

*Vulva*.—As in fig. 47A.

♂ *Colour*.—As in ♀.

*Carapace*.—Length slightly exceeding tibia and metatarsus I, and equal to metatarsus and  $\frac{1}{3}$  tarsus IV.

*Chelicera*.—Superior border with 2–3 teeth, inferior border with 0–1.

*Labium*.—As in ♀.

*Eyes*.—Posterior row very slightly procurved, medians subrotund,

very slightly inclined inwards,  $1\frac{1}{2}$  diameters from each other, and barely 1 diameter from laterals.

*Legs.*—As in ♀, save that the scopulation of the metatarsi is not so complete; tibia I spineless. The 3rd metatarsi bear a comb of bristles similar to, but less distinct than, those of *Prosthesima*; metatarsus IV bears a few comb-like bristles.

*Pedipalps.*—Tibia small, bearing blunt outer apical projection as in fig. 47B.

Palpal organ as in fig. 47B.

*Measurements.*—Length of carapace, ♂ 2.4 mm., ♀ 3 mm. Total length, ♂ 5.8 mm., ♀ 7.4 mm.

SETAPHIS LIGHTFOOTI, n. sp. (Fig. 49.)

*Specimens.*—1 ♂ (B 4642 type). Otavi, S.W. Prot. (R. M. Lightfoot, December 1918.)

*Colour.*—Carapace medium brown with black margin and infuscation extending from border towards the centre. Coxae of legs orange coloured, femora nearly black, remainder of legs lighter and becoming orange brown distally; patellae of anterior legs somewhat infuscated. Abdomen with a testaceous U-shaped band occupying almost all the dorsal surface save for central and lateral dark portions; ventral surface almost entirely occupied by a large testaceous mark. Sternum pale brown.

*Carapace.*—Length equal to tibia and metatarsus I, and to metatarsus and  $\frac{1}{2}$  tarsus IV.

*Eyes.*—Anterior medians smaller than the laterals and close to them. Posterior row straight, medians much smaller than the laterals, subrotund, only slightly inclined inwards,  $1\frac{1}{2}$  diameters apart, and 1 diameter from the laterals; posterior laterals smaller than the anterior laterals.

*Clypeus.*—Less than  $\frac{1}{2}$  the diameter of an anterior lateral eye.

*Chelicera.*—Superior border with 3 stout teeth; inferior border muticous.

*Legs.*—Tarsus I scopulate; metatarsus bearing a very few scopular hairs anteriorly, and 2 median and 2 basal spines; tibia with 2 anterior, 2 median, and 2 basal fine spines; 2nd leg similar, the spines being longer. Tarsus III bearing bristly hairs only on the under surface; metatarsus with a distinct apical comb on the under surface; also bearing spines and bristles; 4th leg similar, but metatarsal comb sparse, lateral, and indistinct; posterior tarsal claws longer and more strongly toothed than the anterior.

*Pedipalps*.—Tibia slightly shorter than the patella and armed on the outer apex with a stout projection; tarsus spoon-shaped, palpal organ as in fig. 49.

*Measurements*.—Length of carapace, 1.8 mm. Total length, 4.9 mm.

SETAPHIS SEXMACULATA, Sim.

1893. *S. sexmaculata*. Simon in Ann. Soc. Ent. Fr., vol. lxii, p. 310, ♀ and ♂.

“ ♂. Length, 5–6 mm.

“ *Cephalothorax* dark reddish, black margined, finely coriaceous, and sparsely clothed with long appressed silky-white hairs, thoracic stria fairly long. Anterior row of eyes strongly procurved, medians at least  $\frac{1}{3}$  smaller than the laterals. Posterior median eyes elongate and oblique, further from each other than from the laterals.

“ *Chelicera*.—Mouth-parts and sternum dark reddish; smooth, sparsely and finely punctate and pilose.

“ *Abdomen*.—Narrow, and long oblong, smooth, black, and glittering; ornamented with 2 anterior round spots, and nearer middle with 2 larger transverse spots; underneath surface with larger oval, longitudinal spots, extending up outer side; all white, neat, and clean white haired.

“ *Legs*.—Pale; femora (anterior ones almost to base, posterior ones only at apices), patellae, and tibiae well marked with black, and slightly banded; anterior tibiae almost black, remainder somewhat long and strongly haired. 1st pair of legs entirely muticous; 2nd pair sometimes bearing 2 basal spines on metatarsus. Posterior legs strongly spined. Anterior tarsi and metatarsi sparsely scopulate, posterior tarsi neither scopulate nor fasciculate, but with strong hairs on the under surface.

“ *Pedipalps*.—Dark reddish, patellae lighter; femora strong, patellae slightly longer than broad; tibia longer than patellae, and bearing an apical projection which is longer than the joint directed apically forward, pointed, and curved upwards. Tarsus and bulb large and convex.

“ ♀. Similar to ♂.

“ *Vulva*.—Vulval area bearing an anterior transverse semicircular depression, and posteriorly with smooth red or black plagula, convex on each side, and grooved in centre.

“ *Locality*.—South Africa, Kimberley and Vryburg. (E. Simon.)”



## GEN. APHANTAULAX, Simon.

## Key to ♂♂ Species.

- (4). 1. Tarsi and metatarsi of anterior pair of legs well scopulate.  
 (3). 2. Tibia of pedipalp with small outer apical projection . . . . . *inornata*.  
 (2). 3. Tibia with an apical and subapical spur dorsally . . . . . *stationis*.  
 (1). 4. Tarsi and metatarsi of anterior pair of legs sparsely scopulate . . . . . *australis*.

The two ♀♀ described are easily separable by their vulvae.

## APHANTAULAX AUSTRALIS, Sim.

1893. *A. australis*. Simon in Ann. Soc. Ent. Fr., vol. lxii, p. 309.

“ ♂. Length, 5 mm.

“ *Cephalothorax*.—Blackish, smooth, and shiny; furnished above with broad median band of long whitish hairs.

“ *Eyes*.—Posterior eyes small, equal, flat, and in a straight line; medians more remote from each other than from the laterals, and often 3 times their width apart. Anterior row strongly procurved, medians twice as large as the laterals, separate from each other, but touching the laterals.

“ *Clypeus*.—At least 3 times the diameter of an anterior lateral eye.

“ *Abdomen*.—Oblong, rounded anteriorly, posteriorly obtusely truncate; dorsal surface hard, black, and shiny, cinereo-pubescent; furnished anteriorly with large spots, and near middle on each side with transversely elongate spots, and posteriorly above spinners with a transversely elongate spot, all ornamented with white hairs; under surface dark testaceous.

“ *Sternum*.—Shiny black.

“ *Legs*.—Legs black, with fairly long hairs; metatarsi and tarsi slightly lighter and olivaceous. Tibiae of 1st pair of legs, with 1 spine, near centre of interior margin, and with 1 basal interior spine on under surface. Four anterior metatarsi with 2 spines near base. Scopulae long and sparse.

“ *Pedipalps*.—Fairly robust and short, olivaceous. Patellae slightly longer than broad, tibia slightly shorter than patellae, not narrower, almost quadrilateral, furnished on outer apex with a process which is scarcely shorter than the joint, directed straight forward, somewhat thicker at the base, and sharply pointed at the apex. Tarsus narrow oval, subterete; bulb long and simple.

“ *Locality*.—South Africa, Port Elizabeth.”

APHANTAULAX INORNATA, n. sp. (Fig. 50.)

*Specimens* :—

- 1 ♂ (B 3258 type). Salisbury, S. Rhodesia. (R. W. Tucker, April 1917.)
- 1 ♂ (B 4298). Kaapmuiden, E. Transvaal. (R. W. Tucker, November 1918.)
- 1 ♂ (B 3827). Mochudi, Bech. Prot. (R. W. Tucker, January 1918.)
- 1 ♂ (B 2619). Hout Bay Mts., C. Penins. (R. W. Tucker, October 1916.)
- 1 ♂ (9982). Hanover. (S. C. Schreiner, January 1902.)

*Colour*.—Carapace dark brown, almost completely mottled black. Abdomen black, with slight anterior lateral patches and more conspicuous median light patches covered with white hair, or obscured by brownish-black dorsal scutum. Distal portion of legs, especially tarsi, lighter.

*Eyes*.—Anterior row procurved, medians over a diameter apart, and nearly touching the laterals. Posterior row wider and straight; median ocular area longer than wide, scarcely wider posteriorly.

*Legs*.—Metatarsus I scopulate laterally almost to base, and with 2 sub-basal spines; second metatarsus similar. Tarsus III with a few scopular hairs and numerous bristles; tarsus IV without scopular hairs. All tarsi fasciculate.

*Spinners*.—Tubules retracted and indeterminable.

*Pedipalps*.—Palpal organ as in fig. 50. Tibia with small outer apical projection.

*Measurements*.—Carapace, 1.9 mm. Total length, 4 mm.

APHANTAULAX SIGNICOLLIS, n. sp. (Fig. 51.)

*Specimens* :—

- 4 ♀♀ (11,934 types). Vlag Kop, Hanover. (S. C. Schreiner, February 1902.)
- 1 ♀ (980). Durban, Natal. (J. P. Cregoe, October 1896.)
- 1 ♀ (7873). Umtata, C. Province. (Miss Pegler, 1900.)
- 1 ♀ (5278). Dunbrody. (Fr. J. O'Neil, 1899.)
- 1 ♀ (B 4384). Acornhoek, E. Transv., Low Veld. (R. W. Tucker, November 1918.)

*Colour*.—Carapace very dark brown, almost black; legs similar in colour proximally, dull red brown distally. Abdomen brownish black, with 2 small oblique testaceous spots anteriorly, and 2 long

narrow oblique spots medially, the latter extending almost to the ventral surface; dull testaceous mark centrally on the ventral surface.

*Eyes*.—Anterior row compact and procurved; medians about a diameter apart, larger than the laterals. Posterior row straight, slightly wider than the anterior row, and well separated from it; medians smaller than the laterals, flat, and nearer to them than to each other. Median ocular area longer than wide and wider posteriorly. Clypeus considerably wider than the diameter of an anterior eye.

*Chelicera*.—Superior border bearing one moderately stout apical tooth, and apparently a smaller one at its base. Inferior border apparently muticous.

*Legs*.—Tarsi and metatarsi I and II strongly scopulate; metatarsus I with 1 and metatarsus II with 2 basal spines on the under surface. Tarsi III and IV scopulate; metatarsi scopulate anteriorly and laterally and bearing numerous spines. Tarsi bearing moderate fascicles and strongly dentate claws.

*Vulva*.—As in fig. 51.

*Measurements*.—Length of carapace, 3.2 mm. Total length, 8.5 mm.

1 ♀ (7859), E. London (J. Wood, 1899), appears to belong to this species; it is apparently freshly moulted, but the general plan of vulva is as in fig. 51. This and the specimen from Umtata have also a light band dorsally on abdomen anterior to spinners.

1 ♀ (B 3213). Salisbury, S. Rhodesia. (R. W. Tucker, April 1917.)

1 ♀ (B 4274). Kaapmuiden, E. Transv., Low Veld. (R. W. Tucker, November 1918.)

#### APHANTAULAX STATIONIS, n. sp. (Fig. 52, A and B.)

*Specimens* :—

5 ♀♀ (12,222 types). Hout Bay, C. Penins. (Dr. W. F. Purcell, November 1901.)

1 ♀ (B 3483). Matroosberg Mts., Ceres, 4000 ft. (R. W. Tucker, November 1917.)

1 ♀ (5959). Cape Town. (R. M. Lightfoot, December 1899.)

1 ♀ (12,920). Willowmore. (J. Brauns, 1903.)

1 ♂ and 1 ♀ ju. (B 3662). Mochudi, Bechuanaland Prot. (R. W. Tucker, February 1918.)

*Colour*.—Carapace medium brown with darker mottling; femora similar in colour, but legs, especially anterior pairs, lighter from patellae onwards. Abdomen marked as in *signicollis*; testaceous lines in unrubbed specimens are clothed with white hairs.



*Eyes*.—Anterior medians less than a diameter apart, and noticeably larger than the laterals. Posterior row lightly procurved, laterals about  $1\frac{1}{2}$  diameters from the anterior laterals.

*Chelicera*.—Superior border with 1 medium-sized and 1 small tooth apically. Inferior border apparently muticous.

*Legs*.—Comparatively long and slender; tarsi densely scopulate and slightly curved. Metatarsi I and II scopulate to the base and bearing 1–2 fine spines basally; metatarsi III and IV bearing only a few scopular hairs, and moderately spined. Fascicles and tarsal claws short.

*Vulva*.—As in fig. 52A.

*Measurements*.—Length of carapace, 2 mm. Total length, 4.5 mm.

♂. Described from (B 1527).

*Colour*.—Similar to ♀; white spots on abdomen much less distinct, anterior ones being practically absent; abdomen with transverse depression medially.

*Eyes*.—Anterior row procurved, medians a little larger than the laterals; latter about  $\frac{1}{2}$  a diameter from the posterior laterals. Posterior row slightly procurved; medians oval and somewhat oblique, about 3 diameters apart and  $1-1\frac{1}{2}$  diameters from the laterals, which are slightly larger. Clypeus about  $1\frac{1}{2}$  times the diameter of an anterior lateral.

*Chelicera*.—Superior border with 1 tooth.

*Legs*.—Longer and slenderer than in the ♀. Tarsi scopulate, except the 4th tarsi, which are clothed with fine bristles; metatarsi I and II sparsely scopulate and spineless; metatarsi III and IV without scopular hairs, but well spined; metatarsi much longer than the tarsi. Tarsal fascicles small, tarsal claws finely dentate.

*Pedipalps*.—Tibia slightly longer than patella, and bearing an apical and a subapical spur dorsally; tarsus long and tapering anteriorly. Palpal organ as in fig. 52B.

*Measurements*.—Length of carapace, 2 mm. Total length, 4.1 mm.

*Other specimens*:—

1 ♀ (12,051). Signal Hill, Cape Town. (Dr. W. F. Purcell, 1900.)

1 ♀ (5925). Plumstead, Cape Flats. (J. Faure, October–December 1899.)

1 ♀ (12,605). Ashton. (Dr. W. F. Purcell, November 1902.)

1 ♂ (B 1527). Worcester. (Dr. W. F. Purcell, November 1905.)

Also ♂♂ from Cape Peninsula and Matroosberg Mts.

1 ♂ (B 4745). Montagu. (R. W. Tucker, November 1919.)

## TRICHOHYSE, n. gen.

Cephalothorax oval, convex, narrowing anteriorly; thoracic stria small. Anterior row of eyes close together; medians large and round, narrowly separated, and touching the laterals, which are much smaller and oval. Clypeus narrow, equal to short diameter of lateral eye. Posterior row of eyes procurved, scarcely wider than anterior row; medians subrotund, about a diameter apart, and slightly more from the laterals, which are a little larger and subequal to the anterior laterals, from which they are less than a diameter distant.

Chelicera moderately long and tapering gradually anteriorly. Superior margin armed with a small tooth below inner apex and a large tooth at apex, the outer border of which is continued as a keel-like projection of the superior margin. Inferior margin with one minute denticle towards the centre. Sternum oval, longer than broad, and extending between the coxae of the first pair of legs. Labium extending  $\frac{2}{3}$  length of the maxillae, longer than broad, and somewhat laminated laterally towards the apex. Maxillae laminated on inner border, external apices dilated. Legs stout and well spined; all tarsi scopulate and fasciculate. Abdomen clothed in part with plumose hairs. Genus allied to *Poecilochroa* and *Herpyllus*. Type, *T. hortensis*.

## TRICHOHYSE HORTENSIS, n. sp. (Fig. 53.)

*Specimens*.—2 ♀♀ (B 5072 types). Waterberg Mts., S.W. Africa Prot. (R. W. Tucker, February 1920.)

*Colour*.—Carapace medium brown, legs a little lighter; abdomen dull testaceous, uniformly infuscated dorsally and laterally. Sternum medium brown, coxae pale.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{2}$  tarsus I, and to metatarsus and tarsus I.

*Eyes and chelicera* as in generic description.

*Legs*.—Metatarsus I densely scopulate, tibia with lateral scopula extending  $\frac{2}{3}$  of under surface; metatarsus with 1 basal and tibia with 1 apical spine; 2nd leg similar, but without scopula on tibia. Metatarsus III scopulate nearly to base, and heavily spined. Metatarsus IV without scopula, but very heavily spined.

*Vulva*.—As in fig. 53.

*Measurements*.—Length of carapace, 3.8 mm. Total length, 8.8 mm.

## EPIKURTOMMA, n. gen.

Carapace long oval, narrower anteriorly; surface moderately convex, stria small and inconspicuous. Anterior row of eyes fairly strongly procurved; medians about a diameter apart, slightly smaller than the laterals, and close to them. Posterior row wider, lightly procurved, and moderately removed from the anterior row; medians about 2 diameters apart, slightly smaller than the laterals and less than a diameter from them. Posterior laterals subequal to the anterior laterals and  $1\frac{1}{2}$  diameters from them. Clypeus over twice the diameter of an anterior lateral eye. Labium slightly longer than broad, tapering anteriorly, and surpassing the half-length of the maxillae; latter slightly inclined inwards and somewhat broader anteriorly. Chelicera bearing 2 teeth on superior border and 1 tooth on inferior border. Legs long and moderately slender; tarsi and anterior metatarsi scopulate. Inferior spinners short and cylindrical, superior and median spinners slenderer. This genus is allied to *Setaphis* and *Cesonia*.

## EPIKURTOMMA BEAUFORTIA, n. sp. (Fig. 54.)

*Specimens*.—1 ♀ (B 1638 type). Beaufort West. (Dr. W. F. Purcell, October 1905.)

*Colour*.—Carapace golden brown, with slightly darker radiate markings; legs a little darker. Abdomen dull brown, with a narrow oblique white stripe medially on each side, and a thin central stripe running thence to the spinners; the lateral stripes extend to the ventral surface, where they broaden out and merge with the light under surface; slight trace also of anterior lateral marks on the dorsal surface.

*Eyes*.—As in generic description.

*Chelicera, Labium, etc.*—As in generic description.

*Legs*.—Tarsus and metatarsus I scopulate to the base and spineless; tibia I also slightly scopulate anteriorly; 2nd leg similar. Tarsus III scopulate; metatarsus bearing bristly hairs, together with a few scopular hairs, and armed with 2 apical, 2 median, and 2 basal spines. Tibia similarly armed; 4th leg similar, metatarsus much longer and bearing more numerous spines. Tarsal claws very small, the posterior ones being apparently muticous; tarsi also bearing slight fascicles.

*Vulva*.—As in fig. 54.

*Measurements*.—Length of carapace, 2 mm. Total length, 5 mm.



## CAMILLINA, Berland.

Among the South African species described as *Melanophora* by Purcell, were included certain forms which differed in eye formation, colour, etc., to the usual forms.

One such specimen was later described by Tullgren as a new genus, *Camilla*, one of the main characters of the genus being a metatarsal comb on legs III and IV. This I found to be common to all the South African species of *Zelotes* (*Melanophora*), and also to those of *Setaphis*, although not so strongly marked in the latter genus. Shortly afterwards a paper by L. Berland in Bull. Mus. Hist. Nat., 1919, No. 6, notes the same fact with regard to *Zelotes*, and describes and illustrates the form, function, and occurrence of this comb most admirably. Also, he proposes the name *Camillina* for the reception of species such as that described by Tullgren, owing to the pre-occupation of the name *Camilla* given to them by that author.

Under *Camillina*, therefore, are described species which differ from *Zelotes* as follows :—

Colour light brown, abdomen often testaceous. Anterior row of eyes, seen from in front, procurved ; laterals larger than the medians. Posterior row, seen from above, distinctly procurved ; median eyes larger than the laterals, angular, and contiguous posteriorly. Sternum narrower and more oval, and from  $1\frac{1}{4}$ – $1\frac{1}{2}$  times as long as broad ; about  $1\frac{1}{2}$  times as broad at the point of greatest width as anteriorly ; sometimes slightly produced or narrowed anteriorly. Metatarsi III and IV with apical combs of long bristles usually on under surface.

## GEN. CAMILLINA, Berland.

Syn. *Camilla*. Tullgren in Sjostedt's Kilimandjaro-Meru Expedition, vol. iii, pt. 20 : 6, p. 105, pl. i, fig. 16B.

*Key to Species.*

- (10). 1. Carapace equal to length of metatarsus and tarsus IV.
- (8). 2. Carapace equal in length to tibia, metatarsus and  $\frac{1}{2}$  or more tarsus I.
- (6). 3. Posterior median eyes long oblong, strongly inclined outwards.
- (5). 4. Metatarsus I scopulate and spineless . . . . . *corrugata*.
- (4). 5. Metatarsus I not scopulate, and also spineless . . . . . *arida*.
- (3). 6. Posterior median eyes subrotund, and only slightly inclined outwards.
- 7. Metatarsus I scopulate and spineless . . . . . *aestus*.
- (2). 8. Length of carapace not exceeding tibia and metatarsus I.
- 9. Metatarsus I not scopulate, but with a line of fine bristle-like spines and 2 subbasal spines on under-surface . . . . . *postrema* (♂).

- (1). 10. Carapace equal in length to metatarsus and more than  $\frac{1}{4}$  but less than the whole of tarsus IV.
- (12). 11. Carapace less in length than tibia and metatarsus I . . . *acanthognathus*.
- (11). 12. Carapace equal in length to tibia and metatarsus I.
- (16). 13. Metatarsus I scopulate anteriorly.
- (15). 14. Metatarsus I spineless; superior margin of chelicera with 4 teeth, inferior margin with 2 . . . . . *amnicola*.
- (14). 15. Metatarsus I with 2 lines of setae and 2 spines on under surface. Superior margin of chelicera with 5-6 teeth, inferior with 2-3 . . . *biplagia*.
- (13). 16. Metatarsus I not scopulate.
- (18). 17. Length of sternum slightly greater than the greatest width . . . *cordifera*.
- (17). 18. Length of sternum about  $1\frac{1}{4}$  times greatest width.
- (24). 19. Posterior median eyes long oblong, and strongly inclined outwards.
- (21). 20. Vulva with large posterior circula plagula not connected with anterior structure . . . . . *luteus*.
- (20). 21. Vulva with posterior circula plagula connected with anterior structure.
- (23). 22. Carapace equal in length to metatarsus and  $\frac{2}{3}$  tarsus IV . . . *procurva*.
- (22). 23. Carapace equal in length to metatarsus and  $\frac{1}{4}$  tarsus IV . . . *browni*.
- (19). 24. Posterior median eyes subrotund and only slightly inclined outwards. . . . . *setosus*.

CAMILLINA ACANTHOGNATHUS, Purc.

1907. *Melanophora acanthognathus*. Purcell in A.M.N.H., ser. 7, vol. xx, pl. xv, fig. 66, p. 333.

*Specimens*.—1 ♀ (14,197 type). Bergvliet, Cape Flats. (Dr. W. F. Purcell, September 1901.)

*Colour*.—Femur I with no light patch on inner surface.

*Carapace*.—Equal in length to tibia and  $\frac{4}{5}$  metatarsus I and to metatarsus and  $\frac{1}{2}$  tarsus IV.

*Clypeus*.—Slightly greater than diameter of anterior lateral eye.

*Chelicera*.—Superior margin with 3 teeth, inferior muticous and apparently slightly keeled.

*Sternum*.—Length equal to  $1\frac{1}{4}$  times greatest width.

*Legs*.—Metatarsus I without scopular hairs, but with bristles down the centre and 2 basal spines. Strong apical combs on metatarsi III and IV.

*Spinners*.—Bearing 5 apical fusules.

*Vulva*.—As in fig. 66, *loc. cit.*

*Measurements*.—Length of carapace, 3 mm.

CAMILLINA AESTUS, n. sp. (Fig. 55.)

*Specimens*.—1 ♀ (B 2135 type). Nomptsas, S.W. Africa. (R. W. Tucker, December 23, 1915.) Percy Sladen Memorial Expedition.

*Colour*.—Cephalothorax medium brown, and infuscated; abdomen

pallid and infuscated or clothed with dark hairs above; legs and sternum light brown.

*Cephalothorax*.—Narrowing fairly gradually anteriorly; median stria deep and with dark lines radiating from it; surface bearing sparse stiff hairs; clypeus narrower than diameter of anterior lateral eyes.

*Carapace*.—Length equal to metatarsus and tarsus IV, and to tibia, metatarsus, and tarsus I.

*Eyes*.—Seen from in front, the anterior row is well procurved; the lateral eyes larger than the medians and nearly touching them. Posterior row seen from above is straight to slightly procurved and wider than the anterior row; medians larger than the anterior medians, subangular, iridescent white in colour, and set obliquely so that they are nearly touching posteriorly, but anteriorly are equidistant from each other and from the laterals; the latter are smaller or subequal to them in area. Median ocular area parallel-sided and longer than wide.

*Sternum*.—Oval, and  $1\frac{1}{2}$  times as long as broad.

*Chelicera*.—With 1 tooth on the inferior margin, and 2–3 small teeth further along the groove on the superior margin.

*Legs*.—Metatarsus I sparsely scopulate and with 1 median and 1 inner basal spine on the under surface, and 1 basal spine on the inner surface. Posterior legs strongly spined; tarsus III bearing dense stout bristles on the under surface; metatarsus III with still coarser bristles anteriorly, and a strong comb apically; IVth leg with less bristles, and a slight comb on the inner apex of the metatarsus.

*Vulva*.—As in fig. 55; similar to *P. corrugata*, Purc.

*Measurements*.—Length, 6 mm.

No. B 2050, ♀, from Bull's Poorte, S.W. Africa (R. W. Tucker, December 27, 1915), appears referable to this species.

#### CAMILLINA AMNICOLA, n. sp. (Fig. 56, A and B.)

*Specimens* :—

2 ♀♀ (B 3702 type, and B 3715). Junction Crocodile and Marico Rivers, N.W. Transvaal. (R. W. Tucker, January–February 1918.)

1 ♂ (B 3087). Salisbury, S. Rhodesia. (R. W. Tucker, April 1917.)

♀ *Colour*.—Carapace orange brown; abdomen dull testaceous, clothed with sparse black hairs; sternum and mouth parts dark reddish brown; coxae lighter, legs similar to carapace in colour.



*Carapace*.—Length equal to metatarsus and  $\frac{1}{3}$  tarsus IV, and to tibia and  $\frac{2}{3}$  metatarsus I.

*Eyes*.—Seen from above, both rows are straight to slightly procurved; anterior medians smaller than the laterals. Posterior laterals subequal to the anterior laterals, posterior medians subrotund, not quite touching posteriorly, and slightly inclined outwards; nearly touching laterals, which are not greatly smaller. Clypeus slightly less than the diameter of an anterior lateral eye.

*Sternum*.—Length  $1\frac{1}{4}$  times greatest width.

*Chelicera*.—Inferior border with 2 teeth, superior border with 4.

*Spinners*.—Inferior spinners with 5 apical tubules.

*Legs*.—Tarsus I spineless; scopula of club-shaped hairs reaching to the base; metatarsus spineless, but with scopular hairs reaching  $\frac{1}{2}$ – $\frac{2}{3}$  way down the inner side of the under surface. Tarsus II similar to I; metatarsus with scopular hairs extending  $\frac{3}{4}$  way to the base, and with 1 inner median and 2 basal spines on the under surface. Tarsus III with no scopular hairs, but bearing stout bristle-like hairs on the under surface; metatarsus strongly spined and with a stout comb apically towards the outer side. Tarsus and metatarsus IV longer, but similar.

*Vulva*.—As in fig. 56A.

*Measurements*.—Carapace: length, 3.5 mm., breadth, 2.7 mm. Total length, 8.7 mm.

♂ *Colour*.—Carapace golden brown, legs slightly lighter; abdomen pale testaceous, with an anterior dorsal seutum which extends over slightly less than  $\frac{1}{4}$  of the length of the abdomen; dorsal and ventral surfaces sparsely clothed with long stiff black hairs, which have mostly rubbed off, leaving the surfaces stippled with their brown sockets. Ventral surface with a distinct brown epigastric seutum. Sternum orange brown in colour, with a distinct dark margin, and the surface strongly punctate by hair sockets; the carapace also bears marks of a sparse clothing of stiff hairs. Mouth-parts dark orange brown.

*Eyes*.—Anterior row, seen from in front, slightly procurved; laterals larger than the medians. Posterior row straight to slightly procurved, the medians subangular and larger than the laterals; slightly separated posteriorly; but anteriorly wider apart, and practically equidistant from the laterals. Median ocular area longer than wide, and broader posteriorly. Clypeus as deep as the diameter of an anterior median eye, or slightly exceeding the radius of an anterior lateral.

*Chelicera*.—Inferior border with 2 teeth; the proximal one (*i.e.*

nearest the fang) being very small; superior border with 4 teeth, the 2 central ones large, and the proximal one very small.

*Spinners.*—Inferior spinners bearing 5 stout apical tubules; the ventral apical projection bearing a spigot, being well marked.

*Legs.*—Coxa I longer and slenderer than coxa IV. Tarsus I long and slender, being  $\frac{3}{4}$  the length of the metatarsus; bearing no spines, but sparsely clothed on the lower surface with club-shaped scopular hairs; metatarsus with a few such hairs distally, but no spines. Tarsus II subequal to the metatarsus, clothed on its lower surface with scopular hairs, but bearing no spines; metatarsus with a few scattered scopular hairs, and bearing a median and two basal spines on the under surface. Tarsus III with bristles, but with no spines on the under surface; metatarsus heavily spined, and with a strong comb of bristles apically on the under surface. Tarsus IV also with bristles on the under surface; metatarsus twice as long as the tarsus, heavily spined, and with an apical comb of bristles.

*Pedipalps.*—As in fig. 56B.

*Measurements.*—Carapace: breadth, 2.4 mm.; length, 3 mm. Length of abdomen, 4 mm.; chelicera to end of abdomen, 7.8 mm.

Other examples:—

1 ♀ (No. 14,465). Hanover. (L. Schreiner, 1905.)

This specimen is slightly larger than the type, the total length being 9 mm. and the carapace 4 mm.

2 ♀♀, 1 ♂ (No. 14,353). St. Helena Bay, Malmesbury Div., C. Province. (J. E. C. Goold, 1905.)

The ♀♀ are the same size, or slightly smaller, than the type and carry a basal spine on metatarsus I, and 2 median spines on metatarsus II.

The ♂ is much smaller than that described from Rhodesia, the total length being only 5.5 mm.; carapace, 2.7 mm.; it is also lighter in colour; the palpal organ, however, is identical, and there is no doubt that all the above specimens belong to the one species.

Also 1 ♀ (Grahamstown Museum), Smitsdrift, Pietersburg.

#### CAMILLINA ARIDA, Purc.

*Melanophora arida.* Purcell in A.M.N.H., ser. 7, vol. xx, pl. xv, p. 333, fig. 65.

*Specimens.*—1 ♀ and jv. (13,247 type). Laingsburg, Pr. Albert Div. (Mrs. and Dr. W. F. Purcell.)

*Colour.*—Carapace very dark mahogany brown; femora of legs and sternum slightly lighter. Abdomen dull testaceous.

*Carapace*.—Equal in length to metatarsus and tarsus IV ; and a little less than tibia, metatarsus, and tarsus I.

*Eyes*.—Posterior row moderately procurved ; medians large, oblong, contiguous posteriorly and inclined outwards, and larger than the laterals from which they are slightly separated ; clypeus narrower than the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 4 small teeth ; inferior border muticous or with 1 minute tooth.

*Sternum*.—Length nearly twice the greatest breadth.

*Legs*.—Metatarsus I not scopulate or spineless. Apical comb on metatarsus III partially hidden by other bristles ; comb on metatarsus IV sparse.

*Vulva*.—As in fig. 65, *loc. cit.*

*Measurements*.—Length of carapace, 2.4 mm. Total length, 6 mm.

CAMELLINA BIPLAGIA, n. sp. (Fig. 57, A and B.)

*Specimens*.—1 ♀ (B 2829 type), Gt. Winterhoek Mts., 4500 ft. ; also 2 ♂♂ and 3 ♀♀ from altitudes up to 4700 ft. (R. W. Tucker, November 22, 1916.)

*Colour*.—Cephalothorax pale brown ; mottled, and infuscated anteriorly and at the sides ; legs the same colour distally as the carapace, but slightly lighter proximally ; abdomen dull testaceous and uniformly infuscated on the dorsal surface ; sternum, coxae, etc., pale brown ; labium darker.

*Carapace*.—Equal in length to metatarsus and  $\frac{1}{2}$  tarsus IV, and to tibia and metatarsus I. Surface smooth and moderately convex.

*Eyes*.—Seen from above, the anterior row appears slightly recurved ; the medians being less than a diameter apart, and the laterals and medians almost touching. Posterior row scarcely wider than the anterior, and strongly procurved ; median eyes large, angular, slightly oblique, and contiguous posteriorly ; laterals smaller and narrowly separate from the medians ; less than a diameter from the anterior laterals and subequal to them. Seen from in front, the anterior row is procurved ; the median eyes being subequal to the laterals.

*Chelicera*.—Superior margin with 5–6 teeth, of which the two distal ones are much larger ; inferior margin with 2–3 teeth.

*Sternum*.—Broad, not tapering anteriorly. Length about  $1\frac{1}{4}$  times greatest breadth.

*Legs*.—Tarsus I scopulate on the under surface ; no spines or fascicle, but with a line of stout setae. Metatarsus bearing a few scopular hairs ; 2 spines basally, and 2 lines of stout setae on under



surface; patella longer than patella II. Tarsus II with a coarse scopula; metatarsus not scopulate. Tarsus III with coarse bristles on the under surface; metatarsus with strong scattered spines, and a broad comb of long stout setae around the apical border of the under surface. Tarsus IV also with bristles on the under surface; metatarsus with numerous spines and a comb of long stout setae on the inner apical border. Posterior legs more heavily spined than the anterior.

*Spinners*.—Inferior spinners bearing 4 stout fusules on the dorsal apical border; these most frequently are retracted and are hardly distinguishable.

*Vulva*.—As in fig. 57A. In some specimens the two light anterior plates are joined into one with a more conspicuous border, constricted at the centre.

♂ *Colour*.—Much as in the ♀; abdomen darker and with a small triangular dorsal scutum anteriorly and a faint epigastric scutum.

*Cephalothorax* and *eyes* as in ♀.

*Chelicera*.—Four teeth on superior margin, and 2–3 on inferior margin.

*Legs*.—Tarsus I bearing setose hairs on the under surface; short and dense anteriorly, longer and sparser basally. Metatarsus not scopulate, but bearing setae and 2–3 stout spines. Tarsus II with stouter bristles than I on the under surface; similarly with the metatarsus. Tarsus III with long and very stout bristles on the under surface; metatarsus with numerous spines dorsally and on the under surface, and with an apical comb of stout bristles on the under surface. Tarsus IV similar to III; metatarsus much longer and also bearing anteriorly a comb of bristles. Fascicles absent; claws strongly dentate.

*Pedipalps*.—Palpal organ and tibia (outer dorsal aspect) as in fig. 57B.

*Measurements*.—Length of carapace, ♂ 2.5, ♀ 2 mm. Total length, ♂ 3.6, ♀ 6 mm.

This species is closely allied to *Camillina procurva*, Purc., and *Camillina cordifera*, Tullgr.

Found also on Table Mt., foot of Plattekliip Ravine, 3 ♀♀ (B 842) (R. M. Lightfoot and R. W. Tucker, December 1914); and Camps Bay Slopes, 1 ♀ (B 5236) (R. W. Tucker, November 1920).

Also 1 ♀ (B 3539). Matroosberg Mts., 4000 ft. (R. W. Tucker, December 1917.)

2 ♂♂ (3252 and 3253), Ceres (W. Purcell, October 1897); and 1 ♂ (14 328) from Stellenbosch.

- 1 ♀ (3371). Signal Hill. (W. Purcell, November 1896.)  
 1 ♂ (8711) and 1 ♀ (6169). Bergvliet, Diep R. (Dr. W. F. Purcell, December 1919.)  
 2 ♀♀ (12,218). Hout Bay. (Dr. W. F. Purcell, November 1901.)  
 1 ♀ (12,338). Side of Kalk Bay Mts. (Dr. W. F. Purcell, March 1902.)  
 1 ♀ (Grahamstown Museum). Grahamstown. (J. Hewitt, September 1916.)

CAMILLINA BROWNI, n. sp. (Fig. 58.)

*Specimens*.—1 ♀ (B 5221 type). Vryburg. (J. E. Brown, May 1920.)

*Colour*.—Carapace and legs uniform light brown, abdomen greyish testaceous; sternum coxae, etc., unicolourous with carapace.

*Carapace*.—Length equal to metatarsus and  $\frac{1}{4}$  tarsus IV, and to tibia and metatarsus I.

*Eyes*.—Anterior row, seen from the front, procurved; medians slightly larger than the laterals and closer to them than to each other. Posterior row strongly procurved; medians very large and contiguous posteriorly, oblong, and inclined outwards; also nearly touching anteriorly the laterals, which are smaller than the anterior laterals.

*Sternum*.—Length  $1\frac{1}{3}$  times the greatest breadth.

*Legs*.—As in *luteus*.

*Vulva*.—As in fig. 58.

*Measurements*.—Length of carapace, 2.1 mm. Total length, 6.3 mm.

CAMILLINA CORDIFERA, Tullgr.

1910. *Camilla cordifera*. Tullgren in Sjostedt's Kilimandjaro-Meru Expedition, vol. iii, pt. 20: 6, p. 105; ♂ and ♀, pl. i, fig. 16 a-d.

*Specimens*:—

1 ♂ and 1 ♀ (150, 764). Near Pt. Shepstone, Natal. (Dr. W. F. Purcell, September 1905.)

1 ♀ (B 3267). Salisbury, S. Rhodesia. (R. W. Tucker, April 1917.)

1 ♀ (B 3711). Junction Marico and Crocodile Rivers, N.W. Transvaal. (R. W. Tucker, January–February 1918.)

♀ *Colour*.—Carapace and legs dark brown; sternum lighter and somewhat olivaceous; abdomen infuscated testaceous.

*Carapace*.—Equal in length to metatarsus and  $\frac{2}{3}$  tarsus IV, and to tibia and metatarsus I.

*Sternum*.—Length not greatly exceeding greatest breadth.

*Eyes*.—Anterior row subequal, medians and laterals almost touching each other.

Posterior row well procurved, medians large, oblong, and contiguous posteriorly; inclined outwards, and much larger than the laterals. Posterior laterals smaller than the anterior laterals and almost touching them.

*Chelicera*.—Superior margin with 3 teeth; inferior margin also with 3 teeth.

*Spinners*.—Bearing 3 stout tubules.

*Legs*.—Anterior tarsi very sparsely scopulated; metatarsus I not scopulated and with a pair of very fine apical spines. Metatarsi III and IV with strong apical combs.

*Vulva*.—As in fig. 16A, *loc. cit.*, and fig. 59.

*Measurements*.—Length of carapace, 1.6 mm. Total length, 4.5 mm.

♂ *Colour*.—As in ♀.

*Carapace*.—Equal in length to metatarsus and  $\frac{1}{2}$  tarsus IV, and to a little less than tibia and metatarsus I.

*Eyes and Sternum*.—As in ♀.

*Chelicera*.—Superior border with 4 teeth, inferior border with about 4 much smaller teeth.

*Legs*.—Metatarsi III and IV with large and conspicuous apical combs.

*Pedipalps*.—Palpal organ as in fig. 16, c-d, *loc. cit.*

*Measurements*.—Carapace, 1.7 mm. Total length, 3.9 mm.

#### CAMILLINA CORRUGATA, Purc.

*Melanophora corrugata*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 332, pl. xv, figs. 63 and 64.

*Specimens*.—3 ♀♀ and 1 ♂ (11,774, *ex typ.*). Hanover. (S. C. Schreiner, November 1904.)

For further localities, etc., see below.

♀ *Colour*.—Carapace golden brown, abdomen deep testaceous.

*Carapace*.—Equal in length to metatarsus and tarsus IV, and to tibia, metatarsus, and tarsus I.

*Sternum*.—Length equal to  $1\frac{1}{2}$  times the greatest width.

*Eyes*.—Anterior medians smaller than the laterals. Posterior row very moderately procurved, medians oblong, contiguous posteriorly, inclined outwards, and well separated from the laterals, which are not greatly smaller. Clypeus less than the diameter of an anterior lateral eye.



*Chelicera*.—Superior border with 3–4 teeth; inferior border with 0–1 small tooth.

*Legs*.—Metatarsus I scopulate to base and spineless. Metatarsus III with very strong apical comb; metatarsus IV with a slightly weaker comb.

*Vulva*.—As in fig. 63, *loc. cit.*

*Measurements*.—Carapace, 2.8 mm. Total length, 7 mm.

♂ *Colour*.—As in ♀, abdomen darker dorsally.

*Carapace*.—Length equal to metatarsus and tarsus IV, and slightly exceeding tibia and metatarsus I.

*Eyes, Chelicera, and Sternum*.—As in ♀.

*Legs*.—Metatarsus I and II with a few scopular hairs anteriorly, and 2 pairs of spines on the under surface; metatarsus III with a fairly strong apical comb; comb on metatarsus IV weak.

*Palpal Organ*.—As in fig. 64, *loc. cit.*

*Measurements*.—Length of carapace, 2.7 mm. Total length, 5 mm.

Specimens identified from new localities:—

De Aar; 1 ♀ (B 1580). (Dr. W. F. Purcell, September 1913.)

Warmbaths, Transvaal; 2 ♀♀ and 1 ♂ (150,663). (Dr. W. F. Purcell, September 1905.)

Johannesburg; 2 ♂♂ and 1 ♀ (150,647). (Dr. W. F. Purcell, September 1905.)

Kimberley; ♀ (B 4214). (J. H. Power, November 1918.)

Tsumeb, S.W. Africa; 2 ♀♀ (B 5179). (R. W. Tucker, December 1919.)

Swakopmund, S.W. Prot.; 1 ♀ (B 4833). (R. W. Tucker, February 1920.)

Windhuk, S.W. Prot.; 1 ♀ (B 4248). (R. W. Tucker, February 1920.)

CAMILLINA LUTEUS, n. sp. (Fig. 60.)

*Specimens*.—3 ♀♀ (No. 9479 types). Hanover. (S. C. Cronwright Schreiner, September–November 1901.)

*Colour*.—Golden yellow; abdomen slightly darker on the dorsal surface.

*Carapace*.—Length equal to metatarsus and  $\frac{1}{2}$  tarsus IV, and to tibia and metatarsus I. Clypeus very narrow; less than  $\frac{1}{2}$  the radius of an anterior lateral eye.

*Eyes*.—Anterior row procurved; eyes large, medians touching the laterals and subequal to them. Posterior row moderately procurved; median eyes elongate subangular, contiguous posteriorly, and

touching the laterals anteriorly ; very much larger than the laterals, being about twice their area.

*Chelicera.*—Superior groove with 5 teeth, inferior groove with 4 small teeth.

*Sternum.*—Length  $1\frac{1}{3}$  times the greatest breadth.

*Legs.*—Tarsus I slightly scopulate ; metatarsus not scopulate but bearing 1 outer basal spine on the under surface ; 2nd leg similar, but the metatarsus with 2 basal spines. Tarsus III furnished with fairly long bristles ; metatarsus heavily spined, and bearing a strong apical comb of setae ; metatarsus IV also with a strong apical comb on the under surface.

*Vulva.*—As in fig. 60.

*Measurements.*—Length of carapace, 1.6 mm. ; Total length, 4.6 mm.

*New Localities.*—2 ♀♀ (Grahamstown Museum). Alicedale. (F. Cruden.)

CAMILLINA POSTREMA, n. sp. (Fig. 61.)

*Specimens* :—

1 ♂ (728 type). Diep R., Cape Flats. (F. Purcell, December 1895.)

1 ♂ (3143). Cape Town. (J. Paynter, October 1897.)

*Colour.*—Carapace medium brown, legs lighter brown ; abdomen fairly strongly infuscated dorsally, with a slightly lighter patch posterior to small dorsal scutum ; ventral surface paler.

*Carapace.*—Equal in length to tarsus and metatarsus IV, and to tibia and metatarsus I.

*Eyes.*—Clypeus nearly equal to the diameter of an anterior lateral eye. Posterior row of eyes slightly procurved ; medians large, sub-angular, not quite touching posteriorly, slightly inclined outwards, and nearly touching laterals, which are much smaller.

*Chelicera.*—Superior border clothed with stout hairs which become bristle-like on the anterior surface. Inferior border apparently with a row of small denticles close together on a slightly curved ridge which ends in 2 apical teeth.

*Sternum.*—Length  $1\frac{1}{4}$  times greatest width.

*Legs.*—Tarsus I scopulate ; metatarsus without scopular hairs, but with a line of fine bristle-like spines down each side of the under surface, terminating in 2 fine subbasal spines. Second leg similar, scopular hairs less on the tarsus, and with bristles and spines stronger on the tarsus and metatarsus. Tarsus III clothed with bristles on the

under surface; metatarsus with strong apical comb and dense clothing of bristles on the under surface; also numerous spines. Bristles less on the 4th leg; metatarsal comb distinct.

*Pedipalps*.—As in fig. 61.

*Measurements*.—Length of carapace, 2.4 mm. Total length, 5.5 mm.

#### CAMILLINA PROCURVA, Purc.

*Melanophora procurva*. Purcell in Schultze, Zool. Forschungsreise in Sudafrika, vol. i, p. 239, pl. xi, figs. 25 and 24.

*Specimens*.—♂ and ♀ (150,603, *ex. typ.*). Kammaggas, Little Namaqualand. (Schultze, July–August 1904.)

For other localities and examples see below.

♀ *Colour*.—Cephalothorax dark brown, legs lighter brown; abdomen dull testaceous brown. (Other specimens tend to be lighter in colour.)

*Cephalothorax*.—Equal in length to tibia and metatarsus I, and to metatarsus and  $\frac{2}{3}$  tarsus IV.

*Eyes*.—Anterior medians smaller than the laterals and close to them. Posterior row moderately procurved, medians subangular, not much longer than broad, contiguous posteriorly, and slightly inclined outwards; laterals very much smaller and close to them. Clypeus exceedingly narrow.

*Sternum*.—Length equal to  $1\frac{1}{4}$  times the greatest breadth.

*Chelicera*.—Superior border with 4–5 teeth, inferior border with 2 small teeth.

*Legs*.—Metatarsus I not scopulate, and with several spines on the under surface. Metatarsi III and IV with stout apical combs.

*Vulva*.—As in fig. 24, *loc. cit.*

♂ *Colour*.—Slightly lighter than the ♀.

*Cephalothorax*.—Equal in length to metatarsus and  $\frac{1}{2}$  tarsus IV, subequal to metatarsus and tibia I.

*Eyes, Sternum, and Chelicera*.—As in ♀.

*Pedipalps*.—Palpal organ as in fig. 25, *loc. cit.*

*Measurements*.—Length of carapace, ♀ 2 mm., ♂ 2 mm. Total length, ♀ 6 mm., ♂ 4.8 mm.

Specimens identified from new localities:—

Kentani; 2 ♀♀ (13,861 and 14,537). (Miss Pegler, 1904 and 1905.)

Matjesfontein; 1 ♀ (B 3342). (Dr. W. F. Purcell, November 1897.)

Montagu; 1 ♀ (3893). (Dr. W. F. Purcell, March 1896.)



Doornnek, Alexander Div. ; 1 ♀ (5704). (J. L. Drège, October 1899.)

Pr. Albert ; 1 ♀ (3924). (Dr. W. F. Purcell, September 1896.)

Grahamstown (Grahamstown Museum). (J. Hewitt, February 1915.)

CAMILLINA SETOSUS, n. sp. (Fig. 62, A and B.)

*Specimens*.—1 ♂ and 2 ♀♀ (No. 3370 types). Signal Hill. (Dr. W. F. Purcell, November 1896.)

♀ *Colour*.—Carapace reddish-brown, with darker radiating lines ; legs slightly lighter than the carapace ; femur of 1st leg without light patches. Abdomen testaceous, infuscated on the dorsal surface. Entire surface, especially the legs, clothed with hairs which, when dry, are golden brown in colour.

*Carapace*.—Length equal to metatarsus and  $\frac{1}{2}$  tarsus IV, and to metatarsus and tibia I. Clypeus about equal to  $\frac{1}{2}$  the diameter of an anterior lateral eye.

*Eyes*.—Nocturnal in type. Anterior row strongly procurved, medians subequal to the laterals ; posterior row normal.

*Chelicera*.—Superior border with 5 teeth, the proximal ones (*i.e.* nearest the base of the fang) being small ; inferior border with 3 teeth. One ♀, which is lighter in colour, shows an additional very small proximal tooth on each border.

*Sternum*.—Length not more than  $1\frac{1}{3}$  times the greatest breadth.

*Legs*.—Tarsus I sparsely scopulated at the sides of the under surface, with bristle-like hairs basally, and a line of stout setae down each side ; metatarsus also with a line of spiniform bristles down each side, and bearing 2 basal spines and 1 or 2 weak apical spines ; tibia I bearing fine setae on the under surface. Tarsus II with a few scopular hairs distally, and an irregular line of setae down each side of the under surface ; metatarsus bearing 2 basal spines and numerous spiniform setae ; tibia II with stouter setae than I and with 1 median and 1 basal spine. Metatarsus III with a broad stout comb of setae, and numerous stout bristles and spines ; apical comb on 4th leg stouter but not so dense.

*Spinners*.—With 4 apical tubules.

*Vulva*.—Broad ; nearly filling the space between the lung operculae. Appearance as in fig. 62A. Cf. *P. (Camilla) procurva*, Purc.

♂ *Colour*.—As in ♀ ; abdomen with a slight anterior dorsal scutum. Other characters as in ♀.

*Legs*.—Tarsus and metatarsus of the 1st leg similar to the ♀. Metatarsus of the 2nd leg with a few scopular hairs anteriorly, and 1 median or lateral anterior spine in addition to the 2 basal spines. Apical combs on the metatarsus not quite so strong as in the ♀.

*Pedipalps*.—Patella and tibia short; the latter bearing a stout, slightly curved projection, as in fig. 62B. Palpal organ as in fig. 62B.

*Measurements*.—Length of carapace, ♀ 2.5 mm., ♂ 2.5 mm. Total length, ♀ 6 mm., ♂ 5 mm.

This species is quite distinct from *Camillina biplagia*, specimens of which were taken by Dr. Purcell from the same locality and apparently about the same time as *setosus*; it appears more nearly related to *procurva*, Purc., than to *biplagia*.

GEN. MEGAMYRMECEON, Reuss, 1834.

*Key to Species.*

- (3). 1. Anterior tibiae spined.
  - 2. Clypeus less than twice the diameter of an anterior lateral eye . . . *velox*
- (1). 3. Anterior tibiae spineless.
- (5). 4. Clypeus twice the diameter of an anterior lateral eye . . . *transvaalensis*.
- (4). 5. Clypeus 3 times the diameter of an anterior lateral eye . . . *schreineri*.

MEGAMYRMECEON SCHREINERI, n. sp. (Fig. 63.)

*Specimens* :—

1 ♂ (13,188 type). Hanover. (S. C. Schreiner, 1903.)

1 ♂ (823). Signal Hill, Cape Town. (F. Purcell, April 1896.)

*Colour*.—Carapace and legs light yellowish-brown, with a slight infuscated band between the border and the centre. Abdomen testaceous, covered with tawny pubescence; sternum dark-rimmed.

*Carapace*.—Length slightly exceeding metatarsus I, and equal to patella and little over  $\frac{1}{2}$  tibia IV.

*Eyes*.—Anterior medians less than a diameter apart, and close to the laterals, which are about  $\frac{1}{2}$  their size. Posterior medians large, subangular, and equidistant from the laterals and from each other; posterior laterals smaller than the medians, but larger than the anterior laterals, from which they are over  $\frac{1}{2}$  a diameter distant. Clypeus about twice the diameter of an anterior median, and 3 times the diameter of an anterior lateral eye.

*Chelicera*.—Inferior border muticous; superior border also apparently muticous, but with an apical row of 3–4 small denticles.

*Legs.*—Long and slender ; anterior tarsi long and somewhat curved, densely scopulate and spineless. Metatarsi longer than the tarsi, scopulate to the base, and also spineless ; tibiae I and II spineless. Tarsi of posterior legs scopulate, also bearing bristles on the under surface, metatarsi and remainder of legs well spined.

*Pedipalps.*—Tibia longer than the tarsus, slender, but swollen distally and bearing a short outer apical spur. Tarsal organ as in fig. 63.

*Measurements.*—Length of carapace, 3·8 mm. Total length, 8 mm. The specimen from Signal Hill is slightly smaller and lighter in colour, being evidently newly moulted.

MEGAMYRMECEON TRANSVAALENSIS, n. sp. (Fig. 64.)

*Specimens* :—

2 ♀♀ (B 3716 types). Junction of the Crocodile and Marico Rivers, N.W. Transvaal. (R. W. Tucker, January–February 1918.)

1 ♀ (Grahamstown Museum). Steytlerville. (Miss B. Geard, December 1916.)

*Colour.*—Uniform pale testaceous ; integument covered with appressed dark pubescence ; and legs armed with black spines.

*Carapace.*—Length equal to the metatarsus of the 1st leg, and to patella and  $\frac{1}{2}$  tibia 4th leg. Median stria long and dark ; surface with slight dark radiations. Clypeus deep, twice the diameter of an anterior median eye.

*Eyes.*—Anterior medians  $\frac{1}{2}$  a diameter apart and touching the laterals, which are about  $\frac{1}{2}$  their size. Posterior row strongly procurved, but not forming a semicircle ; the laterals equal to the anterior laterals and slightly removed from them ; medians larger than the laterals, subangular, inclined inwards at the bases, the apices being approximately the same distance from the laterals as the bases are from each other.

*Chelicera.*—With a row of 4–5 minute denticles at the apex of the superior margin.

*Pedipalps.*—Fairly heavily spined ; femur bearing on the inner surface, distally, a stout spine bifurcated apically (this may possibly be an exception).

*Legs.*—Tarsus I long, slender, and flexible ; heavily scopulated to the base and bearing a dense fascicle ; metatarsus scopulate almost to the base, and also spineless on the under surface ; tibia with a few



scopular hairs anteriorly on the outer surface; spineless; 2nd leg similar, but with no scopular hairs on the tibia and less basally on the metatarsus. Tarsus III slender and scopulate to the base; metatarsus with a few scopular hairs anteriorly, and numerous strong spines on the under surface. Tarsus IV slender, flexible, and bearing scopular hairs almost to the base; apical fascicle weak; tarsal claw with a prominent base, bearing 5-6 teeth. Metatarsus very long (twice the length of the tarsus), slender, and bearing numerous spines.

*Spinners*.—Superior spinners long and slender, with a subconical apical joint; longer than the inferior and median spinners; inferior pair stouter and bearing 4 (in one case 3 only) apical fusules. On abdomen at the base of the spinners a transverse chitinous slit is just visible; probably a tracheal opening.

*Vulva*.—As in fig. 64.

*Measurements*.—Length of carapace, 3.3 mm.; breadth 2.9 mm. Total length (excl. spinners), 7.9 mm.

#### MEGAMYRMECEON VELOX, Sim.

1887. *M. velox*. Simon in Ann. Soc. Ent. Fr. (6), vol. vii, p. 372.

“♀ *Length*, 11 mm. Cephalothorax tawny yellow, smooth, shiny, white, silky pubescence, oblong, thoracic stria deep and remote. Anterior row of eyes strongly procurved; medians only  $\frac{1}{3}$  larger than the laterals, and further from each other than from the laterals. Posterior row of eyes equally procurved, medians larger than the laterals, oblique, triquetrous, and subcontiguous, but widely remote from the laterals. Clypeus not as wide as twice a lateral eye. Abdomen oblong, flattened, slightly enlarged posteriorly, truncate anteriorly and posteriorly, four dorsal impressions, entirely yellow, and with silky-white pubescence. Spinners reddish, inferiors long, terete or slightly less thickened towards the apices; superior spinners only half the size of the inferiors. Chelicera, sternum, mouth-parts, and legs shiny tawny yellow. Chelicera robust, sparsely setose; fangs fairly long, superior margin of groove with three teeth, central one largest; inferior margin submuticous, bearing very minute denticles. Legs fairly long, numerously spined; 4 anterior tibiae with submedian spine (situated near exterior margin) and 2 apical spines; metatarsi sometimes with 2 basal spines. Tarsi entirely, and metatarsi anteriorly, scopulate. Tibia and patella IV longer than cephalothorax. Vulval area tawny and coriaceous, bearing longi-

tudinal, lanceolate median plagula, bounded on each side by a curved black line.

“ Akin to Egyptian species.

“ *Locality*.—Kalahari, S.W. Africa. (Dr. H. Schinz, 1884–86.) ”

GEN. ECHEMUS, Sim.

ECHEMUS ERUTUS, n. sp. (Fig. 65.)

*Specimens*.—1 ♀ (B 3663 type). Mochudi, Bechuanaland Prot. (R. W. Tucker, February 1918.)

*Colour*.—Carapace yellowish brown, chelicera slightly darker; posterior legs similar in colour to the carapace; 1st pair of legs considerably darker and redder distally. Abdomen testaceous, slightly infuscated dorsally.

*Eyes*.—The ocular portion of the carapace is unfortunately damaged; the eyes, however, appear as follows. Anterior row strongly procurved; medians light in colour, round, and less than a diameter apart; laterals light in colour, oval, a trifle smaller than the medians, and very close to them. Posterior row very strongly procurved; medians subangular and close together, distant their long diameter from the anterior medians; larger than the posterior laterals, which are subequal to the anterior laterals, and about their own diameter from the posterior medians.

*Chelicera*.—Superior border with 3 teeth, inferior border with 2.

*Legs*.—First leg subequal to the 4th leg, and considerably stouter than any others; tarsus sparsely scopulated, metatarsus with a few scopular hairs anteriorly and bearing 1 apical and 1 submedian spine on the under surface; tibia spineless, and, together with patella and femur, large and swollen. Tarsus of 2nd leg scopulate; metatarsus with fine hairs but no scopular hairs on the under surface, bearing 2 apical and 2 submedian spines; tibia with 2 apical spines on the under surface. Tarsi III and IV bearing a few scopular hairs, but mainly clothed with bristles; metatarsi and tibiae strongly spined; no metatarsal comb of setae; tarsal claws dentate.

*Spinners*.—Inferior spinners short, cylindrical, nearly their own length apart.

*Vulva*.—As in fig. 65.

*Measurements*.—Length of carapace, 2.2 mm. Total length, 5.7 mm.

GEN. ZELOTES, Gistl.

This name was proposed by Gistl, in 1848, to take the place of *Melanophora*, C. Koch, 1833, owing to the latter name having been preoccupied by Meigen in 1803 for a genus of Diptera. The name, however, was overlooked by later workers, and *Prosthesima* was substituted for *Melanophora* by L. Koch in 1872, owing to the aforesaid preoccupation of that name. Both *Melanophora* and *Prosthesima* have been largely used by various workers, but Petrunkevitch in 1911, Bull. Amer. Mus. Nat. Hist., vol. xxix, puts the synonymy right and establishes *Zelotes* as the name for this genus.

ZELOTES, Gistl.

Key to ♀♀.

- (23) 1. No light patch on inner surface of femur I.
- (12). 2. Length of carapace equal to metatarsus and tarsus IV.
- (5). 3. Length of carapace equal to tibia and metatarsus I.
- 4. Metatarsus I weakly scopulate and spined on outer surface. *fuliginoides.*
- (3). 5. Length of carapace greater than tibia and metatarsus I.
- (7). 6. Clypeus greater than diameter of anterior lateral eye . . . *simoni.*
- (6). 7. Clypeus less than diameter of lateral eye.
- (9). 8. Metatarsus I well scopulate . . . . . *lava.*
- (8). 9. Metatarsus I weakly scopulate.
- (11). 10. Metatarsus IV with weak apical comb . . . . . *hewitti.*
- (10). 11. Metatarsus IV with strong apical comb . . . . . *rufipes.*
- (2). 12. Length of carapace less than metatarsus and tarsus IV.
- (14). 13. Length of carapace greater than tibia and metatarsus I . . . *aculeata.*
- (13). 14. Length of carapace equal to tibia and metatarsus I.
- (16). 15. Superior margin of chelicera with 3 or less than 3 teeth ; inferior margin with more than 2.
- (15). 16. Superior margin of chelicera with more than 3 teeth ; inferior with 2.
- (18). 17. Metatarsus I well scopulate . . . . . *zonognathus.*
- (17). 18. Metatarsus I weakly scopulate.
- (20). 19. Metatarsus I not spined on under surface ; metatarsus IV with weak apical comb . . . . . *caldaria.*
- (19). 20. Metatarsus I spined on under surface ; metatarsus IV with strong apical comb.
- (22). 21. Length of sternum not much greater than breadth . . . *natalensis.*
- (21). 22. Length of sternum  $1\frac{1}{4}$  times greatest breadth . . . *vespertilionis.*
- (1). 23. Distinct light patch on inner surface of femur.
- (35). 24. Length of carapace equal in length to tibia and metatarsus I.
- (32). 25. Posterior median eyes nearer to laterals than to each other.
- (29). 26. Metatarsus I not spined, and metatarsus IV with weak apical comb.



- (28) 27. Vulva with anterior central portion longer and narrower than posterior portion . . . . . *capsula*.
- (27) 28. Vulva with anterior central portion shorter and broader than posterior portion . . . . . *flavitarsis*.
- (26) 29. Metatarsus I spined, metatarsus IV with strong apical comb.
- (31) 30. Clypeus equal to, or less than diameter from, anterior laterals. *ungula*.
- (30) 31. Clypeus greater than diameter of anterior lateral . . . *vryburgensis*.
- (25) 32. Posterior median eyes nearer to each other than to laterals.
- (34) 33. Superior margin with 3 or less than 3 teeth, inferior margin with more than 2 denticles . . . . . *fuliginea*.
- (33) 34. Superior margin with more than 3 teeth, inferior margin with 2 denticles . . . . . *lightfooti*.
- (24) 35. Length of carapace greater than tibia and metatarsus I.
- (49) 36. Length of carapace equal to metatarsus and tarsus IV.
- (46) 37. Posterior median eyes nearer to laterals than to each other.
- (43) 38. Metatarsus I spined.
- (40) 39. Clypeus greater than diameter of anterior lateral eye . . . *anchora*.
- (39) 40. Clypeus equal to or less than diameter of anterior lateral eye.
- (42) 41. Vulva with central lines forming an ornate M . . . . . *ornata*.
- (41) 42. Vulva with central lines produced into wide lateral scrolls . . . *broomi*.
- (38) 43. Metatarsus I not spined.
- (45) 44. Clypeus greater than diameter of anterior lateral eye . . . *redunca*.
- (44) 45. Clypeus equal to or less than diameter of anterior lateral eye . . . *o'neili*.
- (37) 46. Post-median eyes nearer to each other than to laterals.
- (48) 47. Clypeus greater than diameter of anterior lateral eye . . . *invida*.
- (47) 48. Clypeus equal or less than diameter of anterior lateral eye . . . *humilis*.
- (36) 49. Length of carapace less than metatarsus and tarsus IV.
- (55) 50. Clypeus greater than diameter of anterior lateral eye.
- (52) 51. Posterior median eyes nearer to each other than to laterals . . . *gooldi*.
- (51) 52. Posterior median eyes nearer to laterals than to each other.
- (54) 53. Sternum not much longer than greatest breadth; Metatarsus IV with strong apical comb . . . . . *albanicus*.
- (53) 54. Sternum  $1\frac{1}{4}$  times as long as greatest breadth; metatarsus IV with weak apical comb . . . . . *cronwrighti*.
- (50) 55. Clypeus equal to or less than diameter of anterior lateral eye.
- (59) 56. Superior margin of chelicera with more than 3 teeth; inferior with 2 denticles.
- (58) 57. Metatarsus I spined, metatarsus IV with strong apical comb . . . *montana*.
- (57) 58. Metatarsus I not spined; metatarsus IV with weak apical comb. . . . . *montivaga*.
- (56) 59. Superior margin of chelicera with 3 or less than 3 teeth; inferior margin with more than 2 teeth.
- (63) 60. Metatarsus I spined.
- (62) 61. Vulva with 4 circular dark spots, the 2 anterior being almost central. . . . . *frenchi*.
- (61) 62. Vulva with 2 fainter circular spots posteriorly . . . . . *sclateri*.
- (60) 63. Metatarsus I not spined.
64. Metatarsus IV with weak apical comb . . . . . *pedimaculosa*.

ZELOTES.

Key to ♂♂.

- (14). 1. No light patch on inner surface of femora I.  
 (10). 2. Length of carapace equal to or exceeding tibia and metatarsus I.  
 (5). 3. Length of carapace equal to metatarsus and less than  $\frac{1}{2}$  tarsus IV.  
 4. Metatarsus I well scopulate and bearing spines on under surface. *fuliginea.*  
 (3). 5. Length of carapace equal to metatarsus and  $\frac{1}{2}$  or more tarsus IV.  
 (7). 6. Metatarsus I with no spines on under surface . . . . . *zonognathus.*  
 (6). 7. Metatarsus I bearing spines on under surface.  
 (9). 8. Palpal organ with large sickle-shaped free process . . . . . *ungula.*  
 (8). 9. Palpal organ with no free process . . . . . *rufipes.*  
 (2). 10. Length of carapace less than tibia and metatarsus I.  
 11. Length of carapace equal to metatarsus and less than  $\frac{1}{2}$  tarsus IV.  
 (13). 12. Metatarsus I spined on under surface . . . . . *aculeata.*  
 (12). 13. Metatarsus I not spined on under surface . . . . . *vespertilionis.*  
 (1). 14. Distinct light patch on inner surface of femur I.  
 (19). 15. Length of carapace equal to, or exceeding tibia and metatarsus I.  
 16. Length of carapace equal to metatarsus and  $\frac{1}{2}$  or more tarsus IV.  
 (18). 17. Metatarsus I spined on under surface . . . . . *humilis.*  
 (17). 18. Metatarsus I not spined on under surface . . . . . *pallidipes.*  
 (15). 19. Length of carapace less than tibia and metatarsus I.  
 (22). 20. Length of carapace equal to metatarsus and less than  $\frac{1}{2}$  tarsus IV.  
 21. Metatarsus I spined on under surface . . . . . *cronwrighti.*  
 (20). 22. Length of carapace equal to metatarsus and  $\frac{1}{2}$  or more tarsus IV.  
 (24). 23. Metatarsus I lightly scopulate anteriorly . . . . . *caldaria.*  
 (23). 24. Metatarsus I not scopulate anteriorly . . . . . *capsula.*

*Zelotes pulchripes*, Purc., of which I have not been able to see the types, has not enough characters in the description to fit into the above keys. It is evidently, however, a distinct and pronounced species, and could readily be recognised from the description and figures given.

ZELOTES ACULEATA, Purc.

1908. *Melanophora aculeata*. Purcell in Schulze, Forschungsreise in Sudafrika, vol. i, p. 237, pl. xi, fig. 20.

*Specimens*.—♂ and 2 ♀♀ (150,601 types). Possession Island, S.W. Africa. (L. Schulze, May 1903.)

♀ *Colour*.—No light patch on inner surface of femora I.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{2}$  tarsus I, and to metatarsus and  $\frac{4}{5}$  tarsus IV.

*Eyes*.—Posterior medians nearer to the laterals than to each other, oval and inclined inwards.

*Clypeus*.—Over  $1\frac{1}{2}$  times the diameter of an anterior lateral eye.

*Chelicera*.—Superior margin with 4 teeth, inferior with 2.

*Sternum*.—Length equal to  $1\frac{1}{4}$  times the greatest width.

*Legs*.—Metatarsus I scopulate nearly to base, and with 1 weak spine on under surface. Apical comb on metatarsus III partially hidden by other bristles; IVth metatarsal comb weak.

*Spinners*.—Bearing 4 apical fusules.

*Vulva*.—As in fig. 20, *loc. cit.*

*Measurements*.—Length of carapace, ♀ 3 mm., ♂ 2.8 mm.

♂ *Colour, Chelicera, Sternum, Spinners, Clypeus, and Eyes*.—As in ♀.

*Carapace*.—Equal in length to tibia and  $\frac{3}{4}$  metatarsus I, and to metatarsus and  $\frac{1}{3}$  tarsus IV.

*Legs*.—Metatarsus I slightly scopulate anteriorly, and bearing 2 basal spines on under surface. Metatarsi III and IV with apical combs.

*Pedipalps*.—Palpal organ as in figs. 45 and 46, A.M.N.H., vol. xx, ser. 7, pl. xv.

ZELOTES ANCHORA, n. sp. (Fig. 66.)

*Specimens*:—

1 ♀ (B 2701 type). Gt. Winterhoek Mts., 4000–4100 ft. (R. W. Tucker, November 29, 1916.)

1 ♀ (B 2622). Hout Bay Mts., C. Penins. (R. W. Tucker, October 1916.)

*Colour*.—Carapace, legs, and sternum dark mahogany brown; tarsi lighter. Abdomen, black dorsally and ventrally; lung operculae light brown. Light patch on the inner surface of femur I conspicuous; patch on outer under surface less conspicuous.

*Carapace*.—Length slightly less than tibia, metatarsus, and tarsus I, and equal to metatarsus and tarsus IV.

*Eyes*.—Anterior medians small, and placed on a slight protuberance; laterals much larger and situated at the sides of the protuberance. Posterior row straight, eyes practically equidistant.

*Sternum*.—Nearly as broad as long;  $1\frac{1}{2}$ –2 times as wide at the broadest part as anteriorly.

*Chelicera*.—Inferior border with 2 small teeth; superior border with no teeth, but with several stout bristles.

*Legs*.—Metatarsi I and II with 2 spines basally on the under surface. Metatarsi III and IV with an apical comb of bristles on the under surface. Femora III and IV with a few fine spines dorsally, but none ventrally.

*Vulva*.—As in fig. 66; akin to *Camillina acanthognathus*, Purc., in formation.



*Measurements*.—Carapace, 2 mm. in length. Total length, 5.5 mm. Also 1 ♀ (B 3473). Matroosberg Mts., Ceres, 4000 ft. (R. W. Tucker, November 1917.)

1 ♀ (B 4741). Mountains beyond Montagu, C. Province. (R. W. Tucker, November 1919.)

ZELOTES BROOMI, Purc.

1907. *Melanophora broomi*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 329, pl. xv, fig. 52.

*Specimens*.—1 ♀ (13,877 type). Stellenbosch, C. Province. (R. Broom, September 1904.)

*Colour*.—Femur I with very pale mark on inner side.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{3}$  tarsus I, and to metatarsus and tarsus IV.

*Clypeus*.—Equal in depth to diameter of anterior lateral eye.

*Eyes*.—Posterior medians slightly nearer to laterals than to each other.

*Chelicera*.—Superior border with 3 teeth, inferior border with 2.

*Sternum*.—Nearly as broad as long.

*Legs*.—Metatarsus I scopulate almost to base, and with 2 basal spines; metatarsi III and IV with strong combs almost lateral in position.

*Spinners*.—Bearing 4 apical fusules.

*Vulva*.—As in fig. 52, *loc. cit.*

*Measurements*.—Length of carapace, 2.5 mm.

ZELOTES CALDARIA, Purc.

1907. *Melanophora caldaria*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 330, pl. xv, figs. 56 and 57.

*Specimens*.—2 ♀♀, 1 ♂ (12,666 types). Montagu Baths, C. Province. (Dr. W. F. Purcell, November 1902.)

♀ *Colour*.—No pale spots on inner surface of femora I.

*Carapace*.—Subequal in length to tibia and metatarsus I, and equal to metatarsus and  $\frac{1}{2}$ – $\frac{2}{3}$  tarsus IV.

*Eyes*.—Posterior medians small and nearer to laterals than to each other.

*Clypeus*.—Less than diameter of anterior lateral eye.

*Chelicera*.—Superior border with 4 teeth, inferior muticous.

*Sternum*.—Length about  $1\frac{1}{4}$  times greatest width.

*Legs.*—Metatarsus I scopulate anteriorly, and spineless; metatarsus III with strong apical comb; IV with sparse comb.

*Spinners.*—Bearing 4 apical fusules.

*Vulva.*—As in fig. 56, *loc. cit.*

*Measurements.*—Length of carapace, ♀ and ♂ 2.1 mm.

♂ *Colour.*—Femur I with no definite light spot on inner surface, but with entire lighter under surface.

*Carapace.*—Subequal in length to tibia and metatarsus I, and equal to metatarsus and  $\frac{1}{2}$  tarsus IV.

*Eyes, Sternum, Chelicera, and Spinners.*—As in ♀.

*Clypeus.*—Equal in diameter to anterior lateral eye.

*Legs.*—Metatarsus I very slightly scopulate anteriorly, and without spines; combs as in ♀.

*Pedipalps.*—Palpal organ as in fig. 57, *loc. cit.*

*New Locality.*—Matroosberg Mts., Ceres, 6000–7000 ft., 1 ♀ (B 3507) (R. W. T., December 1917); also 1 ♀ (B 3458), Matroosberg, 5000–6000 ft. (R. W. T., November 1917).

In these specimens, as in the type ♀, the central V-shaped portion of the shaded area in fig. 56, *loc. cit.*, is dark edged and more conspicuous.

#### ZELOTES CAPSULA, n. sp. (Fig. 67, A and B.)

*Specimens.*—1 ♂ and 2 ♀♀ (B 2872 types). Gt. Winterhoek Mts., 5500–6000 ft. (R. W. Tucker, November 1916); also 6 ♀♀ from the same locality at altitudes from 4000–5500 ft., and 2 ♂♂ and jv. (B 2797), 3800–4000 ft.

♀ *Colour.*—Carapace and legs very dark brown, almost black; light patch on femur of first leg conspicuous; abdomen dull testaceous, strongly infuscated on the dorsal surface.

*Carapace.*—Equal in length to tibia and metatarsus I, and to metatarsus and  $\frac{2}{3}$  tarsus IV.

*Clypeus.*—Much deeper than the anterior lateral eyes.

*Eyes.*—Seen from above, the anterior row appears slightly re-curved; posterior row scarcely wider, and straight along posterior border of eyes, procurved along anterior border. Anterior laterals larger than the medians; medians nearer to the laterals than to each other. Posterior laterals much larger than the medians; medians slightly further from each other than from the laterals.

*Sternum.*—Length not much greater than breadth.

*Labium.*—Long; reaching to inner apices of the maxillae; border slightly depressed.

*Chelicera*.—Superior margin with 3–4 teeth; inferior margin with 0–1 tooth.

*Legs*.—Metatarsi I and II unspined, scopulate laterally over  $\frac{2}{3}$  of length; metatarsus III with apical spines and a comb of stout setae; metatarsus IV with apical spines, but with setal comb lateral and very sparse.

*Spinners*.—With 3–4 stout fusules; usually retracted and scarcely visible.

*Vulva*.—As in fig. 67A; the circular plaques are sometimes nearer together and often not so well defined, being masked by a thickened cuticle. In general appearance the vulva approaches the form usually found in *Drassodella*.

♂ *Colour*.—Slightly darker than the ♀, especially the abdomen; the light patch on the femur of the 1st leg very distinct on the inner side, but less so than on the other.

*Eyes*.—As in the ♀.

*Carapace*.—Equal in length to tibia and barely  $\frac{1}{2}$  metatarsus I, and equal to metatarsus and  $\frac{1}{2}$  tarsus IV.

*Clypeus*.—About the width of a posterior lateral eye.

*Labium*.—As in ♀.

*Chelicera*.—4–5 teeth on the superior margin; inferior margin muticous.

*Legs*.—Anterior legs spineless and without scopulae; posterior legs spined. Metatarsus III with setal comb; metatarsus IV without.

*Pedipalps*.—Palpal organ and tibial spur as in fig. 67B.

*Measurements*.—Length of carapace, ♂ 2.5 mm., ♀ 2 mm.. Total length, ♂ 5 mm., ♀ 5.8 mm.

#### ZELOTES CRONWRIGHTI, Purc.

1907. *Melanophora cronwrighti*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 330, pl. xv, figs. 54 and 55.

*Specimens* :—

18 ♀♀ (9477 *ex. typis*). Hanover. (S. C. Schreiner, September 1901.)

2 ♂♂ and 1 ♀ (11,933). Hanover. (S. C. Schreiner, December 1901–February 1902.)

♀ *Colour*.—Distinct light patch on inner surface of femora I.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{4}$  tarsus I, and to metatarsus and  $\frac{2}{3}$  tarsus IV.

*Eyes*.—Posterior medians inclined inwards, and nearer posteriorly to laterals and anteriorly to each other.



*Clypeus*.—Greater in depth than diameter of anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior border with 2.

*Sternum*.—Length  $1\frac{1}{4}$  times greatest breadth.

*Legs*.—Metatarsus I scopulate anteriorly, and with 1 basal spine on under surface.

Metatarsus III with strong apical comb; comb on IV weak and lateral.

*Spinners*.—Bearing 5 apical fusules.

*Vulva*.—As in fig. 54, *loc. cit.*

*Measurements*.—Length of carapace, ♀ 2.6, ♂ 2.9 mm.

♂ *Colour, Eyes, Clypeus, and Chelicera*.—As in ♀.

*Carapace*.—Length of carapace subequal to tibia and metatarsus II, and equal to metatarsus and  $\frac{1}{5}$  tarsus IV.

*Legs*.—Metatarsus scopulate over anterior two-thirds and bearing 2 basal spines; comb on metatarsus III strong, on metatarsus IV weak.

*Pedipalps*.—Palpal organ as in fig. 55, *loc. cit.*

*Record of New Localities*.—♂ and ♀ (B 229), from Burghersdorp, O.F.S. (Dr Kannemeyer, September 1909.) 1 ♀ (Grahamstown Museum), Douglas, C. Province. (R. Broom.)

#### ZELOTES FLAVITARSIS, Purc.

1908. *Melanophora flavitarsis*. Purcell in Schultze, Forschungsreise in Sudafrika, Bd. I, p. 238, pl. xi, fig. 21.

*Specimens*.—2 ♀♀ (150,602 *ex. typis*). Kammaggas, Little Namaqualand. (L. Schultze, July 1904.)

*Colour*.—Light patch on inner surface of femur I.

*Carapace*.—Equal in length to tibia and metatarsus I, and to metatarsus and  $\frac{1}{2}$  tarsus IV.

*Eyes*.—Posterior medians round and nearer to laterals.

*Clypeus*.—Equal to diameter of anterior lateral eye.

*Chelicera*.—Superior border with 4 teeth, inferior muticous.

*Sternum*.—Only slightly longer than broad.

*Legs*.—Metatarsus I scopulate to base and spineless. Metatarsus III with normal comb, metatarsus IV apparently lacking apical comb.

*Vulva*.—As in fig. 21, *loc. cit.*

*Measurements*.—Length of carapace, 2.3 mm.

#### ZELOTES FRENCHI, n. sp. (Fig. 68.)

*Specimens*.—1 ♀ (B 3900 type). Insiza, S. Rhodesia. (G. French.)

*Colour*.—Carapace dark brown with infuscated mottling; abdomen

infuscated dorsally; legs dark olivaceous brown, the metatarsi and tarsi being redder; light patch on anterior femora, faint.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{4}$  tarsus I, and to metatarsus and  $\frac{3}{4}$  tarsus IV.

*Eyes*.—Large and close together, those in the posterior row being practically equidistant, and the posterior medians subequal to the laterals. Clypeus about  $\frac{3}{4}$  diameter of an anterior lateral eye.

*Sternum*.—Length equal to  $1\frac{1}{4}$  times greatest width.

*Labium*.—As in *Z. capsula*.

*Chelicera*.—Superior margin with 3 teeth, inferior 2.

*Legs*.—Under surface of metatarsus I, with 2 weak apical spines and 2 spines  $\frac{1}{3}$  of the total length from the base, also scopulate anteriorly; metatarsus II with an additional pair of spines midway between the apical and sub-basal spines; both metatarsi I and II bearing scopular hairs. Metatarsus III with a very strong apical comb of bristles, more towards the outer edge of the under surface; metatarsus IV also with a strong apical comb.

*Spinners*.—Inferior spinners with 5 stout apical fusules.

*Vulva*.—As in fig. 68.

*Measurements*.—Carapace, 2.3 mm. long. Total length, 7 mm.

#### ZELOTES FULIGINEA, Purc.

1907. *Melanophora fuliginea*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 327, pl. xv, figs. 44–46.

*Specimens* :—

1 ♀ (3059 type ♀). Signal Hill, Cape Town. (R. M. Lightfoot, December 1897.)

3 ♀♀ and 1 ♂ (9277 ♂ type). Signal Hill. (Dr. W. F. Purcell, September 1901.)

♀ *Colour*.—Distinct pale spot on inner surface of femur I.

*Carapace*.—Equal in length to tibia and metatarsus I, and to metatarsus and  $\frac{3}{4}$  tarsus IV.

*Eyes*.—Posterior medians nearer to each other than to the laterals.

*Clypeus*.—Depth equal to quite  $1\frac{1}{2}$  times diameter of an anterior lateral.

*Chelicera*.—Superior border with 3 teeth, inferior with 2.

*Sternum*.—Length equal to  $1\frac{1}{4}$  times the greatest breadth.

*Legs*.—Metatarsus I scopulate laterally almost to base, and with 2 basal spines on under surface. Metatarsi III and IV with strong apical combs.

*Spinners*.—Bearing 5 apical fusules.

*Vulva*.—As in fig. 44, *loc. cit.*

*Measurements*.—Length of carapace, ♀ and ♂, 3.1 mm.

♂ *Colour*.—Inner light patch on femur not so distinct.

*Carapace*.—Equal in length to tibia and metatarsus I, and to metatarsus and  $\frac{1}{4}$  tarsus IV.

*Eyes*.—Posterior medians nearer posteriorly to laterals, but nearer anteriorly to each other.

*Sternum, Chelicera, Spinners, and Legs*.—As in ♀.

*Pedipalps*.—Palpal organ as in figs. 45 and 46, *loc. cit.*

#### ZELOTES GOOLDI, Purc.

1907. *Melanophora gooldi*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 330, pl. xv, fig. 53.

*Specimens*.—2 ♀♀ (11,705 types). Stompneus, St. Helena Bay. (J. C. Goold, May–June 1902.)

*Colour*.—Conspicuous light patch on inner surface of femur I.

*Carapace*.—Equal in length to tibia and metatarsus and  $\frac{1}{4}$  tarsus I, and to metatarsus and  $\frac{1}{3}$ – $\frac{1}{2}$  tarsus IV.

*Eyes*.—Posterior medians long oblique, nearer to laterals posteriorly and to each other anteriorly.

*Clypeus*.—Slightly greater than diameter of anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior with 2.

*Sternum*.—Length not much more than greatest breadth.

*Legs*.—Metatarsus I scopulate almost to base, and bearing 2 basal spines. Metatarsus III with strong apical comb, IV with a weaker more lateral comb.

*Vulva*.—As in fig. 53, *loc. cit.*

*Spinners*.—5 apical fusules.

*Measurements*.—Length of carapace, 3 mm.

*Specimens identified from New Localities*.—Caledon; 12 ♀♀ (150,072), Dr. W. F. Purcell, July 1910. These examples are darker than the types, being almost black in colour; the vulva is consequently darker; and has the central markings above the circular plaques continued up the light middle area, and in some cases apparently curved over laterally.

#### ZELOTES HEWITTI, n. sp. (Fig. 69A.)

*Specimens*.—2 ♀♀ (B 5698 types). Grahamstown. (J. Hewitt, November 1914 and February 1915.)

*Colour*.—Carapace medium to light brown, mottled with black;



dorsal and lateral surfaces of abdomen infuscated; legs slightly lighter than carapace, and partially infuscated. Femur I without inner light spot.

*Carapace*.—Equal in length to tibia, metatarsus, and about  $\frac{1}{2}$  tarsus I, and equal to metatarsus and tarsus IV.

*Eyes*.—Posterior medians small and much nearer to the laterals.

*Clypeus*.—Very narrow; much less than diameter of anterior lateral eye.

*Sternum*.—Length equal to  $1\frac{1}{3}$  times greatest breadth.

*Legs*.—Metatarsus I with a few scopular hairs anteriorly, and with 2 spines on the under surface; metatarsal comb distinct on metatarsus III, indistinct on IV.

*Vulva*.—As in fig. 69A.

*Measurements*.—Length of carapace, 1.3 mm. Total length, 3.4 mm.

#### ZELOTES HUMILIS, Purc.

1907. *Melanophora humilis*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 331, pl. xv, figs. 60 and 61.

*Specimens*.—♂ and ♀ (3231 types). Ceres, Cape Province. (Dr. W. F. Purcell, October 1897.)

♀ *Colour*.—Light patches present on inner surfaces of femora I.

*Carapace*.—Length equal to metatarsus and tarsus IV, and very slightly greater than tibia and metatarsus I.

*Eyes*.—Posterior medians round to subangular, and nearer to each other than to the laterals.

*Clypeus*.—Less than the diameter of an anterior lateral eye.

*Sternum*.—Length equal to  $1\frac{1}{4}$  times the greatest diameter.

*Chelicera*.—Superior border with 4 teeth, inferior border 2 small teeth.

*Legs*.—Metatarsus I sparsely clothed with scopular hairs and bearing 2 fine apical and 2 sub-basal spines. Metatarsi III and IV with strong median apical combs.

*Spinners*.—Number of tubules indeterminable.

*Vulva*.—As in fig. 60, *loc. cit.*

*Measurements*.—Carapace, ♂ and ♀, 1.3 mm.

♂ *Colour*.—Pale area on inner surface of femora I very large.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{3}$  tarsus I, and to metatarsus and tarsus IV.

*Eyes*.—Posterior medians slightly oval and inclined inwards, nearer to laterals posteriorly, and to each other anteriorly.

*Clypeus, Sternum, Chelicera, and Spinners.*—As in ♀.

*Legs.*—Metatarsus I not scopulate and bearing 2 spines on under surface; apical combs on metatarsi III and IV strong.

*Pedipalps.*—Palpal organ as in fig. 61, *loc. cit.*

#### ZELOTES INVIDA, Purc.

1907. *Melanophora invida*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 328, pl. xv, fig. 47.

*Specimens.*—1 ♀ (3497 type). Bergvliet, Cape Flats. (Dr. W. F. Purcell, October 1896.)

*Colour.*—Distinct light patch on inner surface of femora I.

*Carapace.*—Equal in length to tibia, metatarsus, and  $\frac{1}{2}$  tarsus I, and to metatarsus and tarsus IV.

*Eyes.*—Posterior medians slightly oval and inclined inwards, and nearer to each other than to the laterals.

*Clypeus.*—Equal to  $1\frac{1}{2}$  times the diameter of an anterior lateral eye.

*Chelicera.*—Superior margin with 5 teeth, inferior margin 3 teeth.

*Sternum.*—Length not much greater than the greatest width.

*Legs.*—Metatarsus I scopulate almost to base, and with 2 basal spines; apical combs on metatarsi III and IV strong, that on metatarsus IV slightly lateral.

*Spinners.*—Tubules retracted, 4 apparently present.

*Vulva.*—As in fig. 47, *loc. cit.*

*Measurements.*—Length of carapace, 3 mm.

*Specimens identified from New Localities:*—

Caledon; 2 ♀♀ (B 378 and B 379) and 8 ♀♀ (150,071) (Dr. W. F. Purcell, July 1910), the latter examples being smaller and darker than the type.

Matjesfontein; 1 ♀ (150,466). (Dr. W. F. Purcell, August 1906.)

Table Mt., Plattekliip Gorge; 1 ♀ (B 799). (R. W. Tucker, December 1914.)

Stompneus, St. Helena Bay, Malmesbury Div.; 1 ♀ (B 3412). (J. E. C. Goold, January 1902.)

Dassen Island; 1 ♀ (B 383). (R. M. Lightfoot, April 1897.)

Alicedale; 1 ♀ (Grahamstown Museum). (F. Cruden.)

Grahamstown; 1 ♀ (Grahamstown Museum). (J. Hewitt, September 1916.)

ZELOTES LAVA, n. sp. (Fig. 69B.)

*Specimens* :—

1 ♀ (B 1941 type). Beaufort West. (Dr. W. F. Purcell, October 1905.)

1 ♀ (B 1579). De Aar. (Dr. W. F. Purcell, September 1913.)

*Colour*.—Medium brown, slightly mottled with black; legs and chelicera a little lighter; abdomen testaceous, slightly infuscated dorsally and paler ventrally; femora of 1st legs with no light patch.

*Carapace*.—Equal in length to tibia, metatarsus, and  $1\frac{1}{4}$  tarsus I, and slightly greater than metatarsus and tarsus IV.

*Clypeus*.—About  $\frac{1}{2}$  the diameter of an anterior lateral eye.

*Eyes*.—Diurnal in type; anterior row only slightly procurved, posterior row slightly procurved, medians nearer to the laterals than to each other.

*Chelicera*.—Superior border with 5 stout teeth; inferior border with 3 teeth, the middle one being nearer the centre of the groove.

*Sternum*.— $1\frac{1}{3}$  times as long as broad.

*Legs*.—Tarsus I bearing long club-shaped scopular hairs, metatarsus with similar hairs which become sparser basally; no spines on under surface. Tarsus and metatarsus II scopulate; metatarsus bearing 0–1 median and 2 basal spines. Metatarsus III with a very stout apical comb of setae on the under surface; similarly with the 4th leg.

*Spinners*.—Inferior spinners bearing 4 stout apical tubules.

*Vulva*.—As in fig. 69; in the De Aar specimen the vulva is paler, and has the lateral lines shorter and less distinct, and the basal ovals longer and larger.

*Measurements*.—Length of carapace, 2.4 mm. Total length, 6 mm.

Also 1 ♀ (B 3886) from Insiza, S. Rhodesia. (G. French.) This specimen is much smaller than the type, the measurements being: carapace, 1.8 mm.; total length, 5.7 mm. The vulva agrees with the type, but is slightly longer and more compressed.

ZELOTES LIGHTFOOTI, Purc.

1907. *Melanophora lightfooti*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 329, pl. xv, fig. 48.

*Specimens*.—2 ♀♀ (3251 types). Ceres, Cape Province. (R. M. Lightfoot, October 1897.)

*Colour*.—Light patch on inner surface of femur I diffuse.



*Carapace*.—Equal in length to tibia and metatarsus I, and to metatarsus and  $\frac{2}{3}$  tarsus IV.

*Eyes*.—Posterior medians round, very slightly nearer to each other than to the laterals.

*Clypeus*.—A little wider than the diameter of an anterior lateral eye.

*Chelicera*.—Superior margin with 5 teeth, inferior margin 2 teeth.

*Sternum*.—Equal in length to  $1\frac{1}{4}$  times the greatest breadth.

*Legs*.—Metatarsus I scopulate laterally over  $\frac{1}{2}$  length, and bearing 2 fine apical and 2 basal spines. Metatarsus III with strong apical comb, IV with a smaller and more lateral comb.

*Vulva*.—As in fig. 48, *loc. cit.*

*Spinners*.—Bearing 5 apical fusules.

*Measurements*.—Length of carapace, 3 mm.

#### ZELOTES MONTANA, Purc. (Fig. 70.)

1907. *Melanophora montana*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 329, pl. xv, fig. 51.

1910. *Prosthesima montana*. Tullgren in Kilimandjaro - Meru Expedition, 20 : 6, vol. iii, p. 110, ♀.

*Specimens*.—1 ♀ (8589 type). Top of Table Mt., Cape Town. (Dr. W. F. Purcell, October 1900.)

*Colour*.—Light spot on inner surface of femur I small.

*Carapace*.—Length slightly exceeding tibia and metatarsus I, and equal to metatarsus and  $\frac{1}{2}$  tarsus IV.

*Eyes*.—Slightly inclined inwards, but nearer to laterals, especially posteriorly.

*Clypeus*.—Equal to diameter of anterior lateral eye.

*Chelicera*.—Superior margin with 4 teeth, inferior with 3.

*Sternum*.—Length not much more than greatest width.

*Legs*.—Metatarsus I scopulate laterally two-thirds of length, and with 2 basal spines on under surface ; metatarsi III and IV with strong apical combs.

*Spinners*.—With 5 apical fusules.

*Vulva*.—As in fig. 51, *loc. cit.*

*Measurements*.—Length of carapace, 3 mm.

♂ *Colour*.—Entirely black ; ventral surface of abdomen paler, and lung opercula light brown ; dorsal scutum dark brown.

*Eyes*.—Posterior row straight to slightly procurved, typically diurnal in form.

*Chelicera*.—Superior border with 3 large and 1 small teeth ; inferior

border with 2 large and 1 small teeth ; the small teeth being near the base of the fang.

*Legs.*—Anterior tarsi lightly scopulated ; metatarsi bearing a few scopular hairs, and 2 sub-basal spines ; tarsi III and IV bearing no scopular hairs, but bristles ; metatarsi III and IV strongly spined, and bearing stout apical combs of setae.

*Pedipalps.*—Palpal organ as in fig. 70.

*Measurements.*—Length of carapace, 3 mm. Total length, 7 mm.

*Specimens* :—

- 1 ♂ and 1 ♀ (B 4523). Table Mt. (January 1919.)
- 11 ♂♂ and 3 jv. ♀ (B 4598). Table Mt., Lower Plateau. (R. W. Tucker, February 1919.)
- 1 ♂ and jv. ♀ (B 3345). Steenbras Valley. (R. W. Tucker, October 1, 1917.)
- 1 ♂ (Grahamstown Museum). Alicedale. (F. Cruden, September 1916.)
- 2 ♂♂ (150,070). Caledon. (Dr. W. F. Purcell, July 1910.)
- 2 ♂♂ (14,327). Stellenbosch, C. Province. (R. Broom, October 1904.)
- 1 ♂ (B 4723). Montagu, C. Province. (R. W. Tucker, October 1919.)
- 2 ♀♀ (B 2729). Gt. Winterhoek Mts., 4100 ft. (R. W. Tucker, November 1916.)
- 1 ♀ (B 3464). Matroosberg Mts. (7500–8000 ft.). (R. W. Tucker, December 1917.)

The specimens are slightly smaller and darker than those described by Purcell ; in addition, the vulva shows strongly a character only weakly represented in Purcell's specimens, and not shown in his fig. 51. This character consists of two distinct " tunnels " in the space above the circular plaques ; they are arched over by a continuation of the lateral curved lines, which do not merge in the median dark lines, as fig. 51 shows, but curve down and are superimposed on them. The arches or tunnels so formed are akin to those figured in *P. fuliginea*, Purc., pl. xv, fig. 44. There is great similarity also to the vulva of *P. simoni*, Purc., which is sometimes not so big centrally as in fig. 49. One of the Winterhoek specimens in which the above character is not so conspicuous agrees very well with a specimen from the summit of Table Mountain, which shows it more strongly than the other Peninsula specimens ; one from Kalk Bay Mts. (C. Penins.) shows the character fairly well, and one from Port Elizabeth shows traces of it. One, however, from Table Mt. is as shown in fig. 51, the

arches being almost indistinguishable ; this specimen appears newly moulted.

Also 1 ♀ (B 2771). Gt. Winterhoek Mts. (4800–5000 ft.). (R. W. Tucker, November 17, 1916.)

A ♀ example (B 3211) from Salisbury, S. Rhodesia (R. W. Tucker, April 1917), also appears referable to this species. Tullgren (*loc. cit.*) records a specimen from a height of 3000–4000 ft., Kilimandjaro, G.E. Africa, which, according to his description, is black and differs slightly in eye formation from *montana*. The specimen from Salisbury is also practically black and very large (carapace, 3.5 mm. ; total length, 9.2 mm.), but agrees with *montana*. The vulva is coarse, and has the two dark central lines, figured by Purcell and Tullgren, masked or absent. Both Cape and Rhodesian specimens have the patella and tibia subequal to the cephalothorax, as given by Tullgren for the E. African example. In none, however, are the anterior median eyes so widely separated (2 diameters) as in Tullgren's example, and, further, the median ocular area is wider posteriorly, *i.e.* the medians slightly nearer to the laterals than to each other. Unless the northern examples ultimately prove to belong to a new species, *P. montana* appears to have a wide distribution, namely, from C. Peninsula to G.E. Africa.

ZELOTES MONTIVAGA, n. sp. (Fig. 71.)

*Specimens*.—1 ♀ (B 3503 type). Matroosberg Mts., Ceres, 4500 ft. (R. W. Tucker, November 1917.)

*Colour*.—Carapace and sternum nearly black ; legs similar but slightly lighter distally ; femora of 1st legs with usual lateral light marking. Abdomen dull testaceous, strongly infuscated dorsally.

*Carapace*.—Equal in length to tibia, metatarsus,  $\frac{1}{2}$  tarsus I, and to metatarsus and  $\frac{2}{3}$  tarsus IV.

*Eyes*.—Posterior medians round, much nearer to laterals.

*Clypeus*.—Subequal to diameter of anterior lateral eye.

*Chelicera*.—Inferior border muticous ; superior border bearing 4 teeth.

*Sternum*.—Length equal to  $1\frac{1}{4}$  times greatest breadth.

*Legs*.—1st and 2nd legs without spines on the under surface. Tarsi III and IV well clothed with bristles on the under surface ; legs otherwise not so heavily spined as is usual. Metatarsal comb on 3rd leg weak and small ; practically absent on 4th metatarsus.

*Vulva*.—As in fig. 71.

*Measurements*.—Length of carapace, 2 mm. Total length, 5.2 mm.



ZELOTES NATALENSIS, n. sp. (Fig. 72.)

*Specimens*.—1 ♀ (B 1326 type). Inyalazi River, Natal. (H. W. Bell Marley, July 1915.)

*Colour*.—Carapace medium brown, mottled with black; coxae of legs light brown; legs dark, the tarsi and metatarsi being reddish in colour. Dorsal surface of abdomen infuscated olivaceous in colour; ventral surface paler. Femur or 1st leg without lateral light patches.

*Carapace*.—Equal in length to tibia and  $\frac{3}{4}$  metatarsus I, and to metatarsus and  $\frac{3}{4}$  tarsus I.

*Clypeus*.—Slightly less than the diameter of an anterior lateral eye.

*Eyes*.—Anterior laterals much larger than the medians; posterior row very slightly procurved; medians as large as laterals, subangular and much nearer to each other than to laterals.

*Sternum*.—Slightly longer than broad.

*Chelicera*.—Superior border with 4 teeth, inferior border with 3 smaller teeth.

*Legs*.—Tarsus I scopulate; metatarsus not scopulate, but bearing 2 basal spines on the under surface. Tarsus II not scopulate, metatarsus with 1 median and 2 basal spines. Tarsus III densely clothed with bristle-like hairs on the under surface, and metatarsus with a strong apical comb of setae; 4th leg similar, and metatarsus twice the length of the tarsus.

*Spinners*.—Inferior spinners with 5 stout apical tubules.

*Vulva*.—As in fig. 72.

*Measurements*.—Length of carapace, 2.8 mm. Total length, 7 mm. This species greatly resembles *Camillina* in eye formation.

ZELOTES O'NEILI, Purc.

*Melanophora o'neili*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 332, pl. xv, fig. 62.

*Specimens*.—2 ♀♀ (5277 types). Dunbrody, Uitenhage Div. (Rev. J. A. O'Neil.)

*Colour*.—Light patch on inner surface of femora I very distinct.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{3}$  tarsus I, and slightly exceeding metatarsus and tarsus IV.

*Eyes*.—Posterior medians subangular, nearer to laterals than to each other.

*Clypeus*.—Barely equal to the diameter of an anterior lateral eye.

*Chelicera.*—Superior border with 3 large teeth, inferior border muticous.

*Sternum.*—Length equal to  $1\frac{1}{4}$  or more times the greatest width.

*Legs.*—Metatarsus I scopulate almost to base and spineless; metatarsi III and IV with strong apical median combs.

*Spinners.*—Number of fusules indeterminable.

*Vulva.*—As in fig. 62, *loc. cit.*

*Measurements.*—Length of carapace, 2.4 mm.

ZELOTES ORNATA, n. sp. (Fig. 73.)

*Specimens* :—

1 ♀ (B 2859 type). Gt. Winterhoek Mts., 4500–5000 ft. (R. M. Lightfoot, November 20, 1916.)

1 ♀ (B 2545). Gt. Winterhoek Mts. (R. W. Tucker, April 4–14, 1916.)

*Colour.*—Carapace dark mahogany brown; legs very slightly lighter. Dorsal surface of abdomen infuscated, ventral surface slightly paler. Sternum, coxae, and mouth-parts dark brown. Light patches on inner surface, and outer under surface of femur I only moderately distinct.

*Carapace.*—Equal in length to tibia, metatarsus, and  $\frac{1}{5}$  tarsus I, and to metatarsus and tarsus IV.

*Eyes.*—Posterior medians round and nearer to laterals.

*Sternum.*—Slightly longer than broad.

*Clypeus.*—Equal to diameter of an anterior lateral eye.

*Chelicera.*—Inferior border muticous; superior border with 3 stout teeth.

*Legs.*—Metatarsi I and II with 0–1 basal and 1 lateral spines on the lower surface. Metatarsus III with a strong apical comb of bristles on under surface; metatarsus IV with a stout but small apical comb.

*Vulva.*—As in fig. 73.

*Measurements.*—Carapace, 2.6 mm. in length. Total length, 6 mm. Species allied to *Z. invicta* (Purc.).

ZELOTES PALLIDIPES, n. sp. (Fig. 74.)

*Specimens.*—1 ♀ (No. B 2134 type). Nomptsas, S.W. Africa. (R. W. Tucker, December 23, 1915.) Percy Sladen Memorial Expedition.

*Colour.*—Carapace almost black, and with radiating and mottled

infuscations; legs dark brown, femora tinged olivaceous, tarsi lighter; no distinct light patch on femur I inner surface. Abdomen pale testaceous below, and infuscated and wrinkled above. Spinners dark brown; sternum, coxae, etc., medium brown.

*Carapace*.—Equal in length to tibia and metatarsus I, and to metatarsus and  $\frac{2}{3}$  tarsus IV.

*Eyes*.—Anterior laterals larger than the medians; anterior medians small, round, and situated on a slight protuberance, which, seen from above, gives the anterior row a slightly recurved appearance; seen from in front, the row is slightly procurved. Posterior row straight and wider than the anterior row; medians small, round, slightly nearer to the laterals than to each other; laterals much larger than the medians.

*Clypeus*.—A little less than the diameter of an anterior lateral eye.

*Chelicera*.—With 2 blunt projections on the posterior border, and 1 large blunt tooth and an adjacent small one on the anterior border.

*Sternum*.—Nearly  $1\frac{1}{4}$  times as long as broad.

*Legs*.—Anterior legs spineless, and with sparse bristle-like scopulae on the tarsi. Tibia of the 1st leg slightly longer and much stouter than the metatarsus. Posterior legs bearing moderately stout spines save on the tarsi, which are clothed with strong bristles or short fine spines on the under surface. Metatarsus III bearing an imperfect comb of long bristles on the lower anterior border; metatarsus IV apparently lacking a comb. Posterior tarsal claws long and bearing 4–5 strong teeth.

*Pedipalps*.—Patella longer and stouter than the tibia; tibia, tarsus, and palpal organ as in fig. 74.

*Spinners*.—Inferior spinners with a fringe of hairs and fusules (number indeterminable) on the outer apex; in length slightly exceeding the median, and twice as long as the superior spinners.

*Measurements*.—Length, 3.9 mm. Carapace, 1.6 mm. in length.

ZELOTES PEDIMACULOSA, n. sp. (Fig. 75.)

*Specimens*.—3 ♀♀ (B 5247 types). Windhuk, S.W.A. Prot. (R. W. Tucker, January 1920.)

*Colour*.—Carapace very dark brown, mottled black. Abdomen grey black dorsally, dull testaceous laterally. Sternum brown, coxae lighter. Anterior legs similar in colour to carapace; tarsi and metatarsi lighter; posterior pair of legs mottled light and dark; pronounced light patch on inner surface of femur I.



*Carapace*.—Equal in length to tibia, metatarsus, and about  $\frac{1}{2}$  tarsus I, and to metatarsus and nearly  $\frac{2}{3}$  tarsus IV.

*Eyes*.—Posterior medians round, nearer to laterals than to each other.

*Chelicera*.—Superior border with 3 teeth, inferior with 2.

*Sternum*.—Slightly longer than broad (nearly  $1\frac{1}{4}$  times greatest breadth).

*Clypeus*.—Less than diameter of an anterior lateral eye.

*Legs*.—Tarsi I and II entirely scopulate; metatarsus sparsely scopulate and spineless. Legs III and IV without scopular hairs, but bearing bristles on tarsi and bristles and spines on metatarsi. Metatarsus III bearing strong apical comb of bristles; IV with comb weak or lacking.

*Vulva*.—As in fig. 75. Cf. *Z. montivaga*, n. sp.

*Measurements*.—Length of carapace, 2 mm. Total length, 5 mm.

#### ZELOTES PULCHRIPES, Purc.

1908. *Melanophora pulchripes*. Purcell in Schultze, Forschungsreise in Sudafrika, vol. i, p. 238, pl. xi, figs. 22 and 23.

“*Specimens*.—1 ♂ and 1 ♀. Steinkopf, Little Namaqualand. (L. Schultze, July 1904.)

“♂ (type). *Colour*.—Cephalothorax testaceous, the margins narrowly blackened; abdomen deep black, slightly iridescent, the underside slightly paler in the middle, the lung opercula and the area between them pale yellowish; sternum, coxae of pedipalps, and chelicera testaceous; legs pale ochraceous, the 2 anterior pairs much blackened on the femora, patellae, and tibiae; third and fourth pairs with a black distal patch on each side of the femora, fourth pair also with a black distal spot on each side of the patella and a long black patch on each side of the tibia, extending over more than the distal half of the segment; tibiae and metatarsi pale ochraceous.

“Anterior row of eyes strongly procurved, the laterals larger than the medians; posterior row straight, distinctly wider than the anterior row, the eyes equidistant, the laterals a trifle larger than the medians.

“*Chelicera*.—With 1 large and 3 small teeth on superior margin, but none on inferior margin.

“*Legs*.—Metatarsus I with 2 spines below, but without scopula; tibia I unspined.

“*Pedipalps*.—Femur sinuated on outer side at distal end, the sinus with a short stout spine at its proximal end ; patella a little longer than the tibia ; tibia short, without the usual outer spur at apex, but with a short apical spine above ; palpal organ as in pl. xi, fig. 22, the distal end with a short horizontal plate projecting forwards and outwards, and provided on medial side with a small tooth directed downwards and a slender spine projecting forwards and outwards.

“♀. Abdomen paler, the legs much less blackened, the posterior pairs almost entirely pale ochraceous.

“*Legs*.—Anterior pair spined as in the ♂.

“*Chelicera*.—With a distinct inferior tooth in addition to the superior ones.

“*Vulva*.—As in pl. xi, fig. 23, *loc. cit.*

“*Length*.—♂,  $3\frac{1}{4}$  mm. ; ♀, 5 mm.

“This little species is prettily coloured and is well characterised by the structure of the femur and tibia of ♂. In ♀ anterior row of eyes are abortive.” (W. F. P.)

#### ZELOTES REDUNCA, Purc.

1907. *Melanophora redunca*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 329, pl. xv, fig. 50.

*Specimens*.—3 ♀♀ (3394 types). Salt River, Cape Town. (Dr. W. F. Purcell, April 1896.)

*Colour*.—Light patch on inner surface of femur present, but indistinct.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{2}{3}$  tarsus I, and to metatarsus and tarsus IV.

*Eyes*.—Posterior medians subangular, very slightly nearer to the laterals.

*Clypeus*.—Slightly greater than the diameter of an anterior lateral eye.

*Chelicera*.—Superior margin with 3, possibly 4 teeth, inferior margin 2 or 3.

*Sternum*.—Length slightly greater than the greatest breadth.

*Legs*.—Metatarsus I scopulate almost to base, and with 2 basal spines. Metatarsi III and IV with strong apical combs.

*Spinners*.—Tubules retracted and indeterminable.

*Vulva*.—As in fig. 50, *loc. cit.*

*Measurements*.—Length of carapace, 3 mm.

## ZELOTES RUFIPES, n. sp. (Fig. 76, A and B.)

*Specimens*.—3 ♀♀ and 3 ♂♂ (B 3255 types). Salisbury, S. Rhodesia. (R. W. Tucker, April 1917.)

♀ *Colour*.—Carapace dark brown, with marginal and slight radial infuscations. Legs dark olivaceous brown from femora to tibiae; metatarsi and tarsi lighter, redder brown (in a newly moulted ♀ the distinction is very clear); femora of 1st leg without light patches. Abdomen testaceous, completely infuscated on the upper surface, but less so underneath. Sternum medium brown; coxae lighter and slightly olivaceous.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{3}$ – $\frac{1}{4}$  tarsus I, and to metatarsus and tarsus IV.

*Eyes*.—Diurnal type. Posterior medians subangular and oblique, and nearer to each other posteriorly than to the laterals. Clypeus equal in depth to the diameter of an anterior lateral.

*Sternum*.—About  $1\frac{1}{4}$  times as long as broad.

*Chelicera*.—Superior margin with 3 strong teeth; inferior margin with 3 small teeth, the proximal one being minute.

*Legs*.—Tarsus I slightly scopulate, and with a line of fine bristles down the under surface; metatarsus with a few bristles and scopular hairs anteriorly on the lower surface; 3–4 of the apical bristles being spiniform; also with 2 spines basally. Tarsi and metatarsi II similar, but metatarsus with 2 median spines also. Posterior legs heavily spined. Tarsus III densely clothed with bristles on the lower surface; metatarsus with a strong apical comb. Tarsus IV not so densely clothed as III; metatarsus also with a strong apical comb.

*Vulva*.—As in fig. 76A.

*Spinners*.—Inferior spinners with 5 apical tubules.

♂ *Colour*.—As in ♀. Dorsal surface of abdomen with a dark brown scutum anteriorly, extending over  $\frac{2}{3}$  of the entire length. Ventral surface with a lighter brown epigastric scutum.

*Eyes and Sternum*.—As in ♀.

*Carapace*.—Length equal to tibia and  $\frac{3}{4}$  or more metatarsus I, and to metatarsus and  $\frac{1}{2}$ – $\frac{2}{3}$  tarsus IV.

*Chelicera*.—Superior border armed with 5 teeth, inferior border with 4 smaller ones; in each case the proximal two are smaller than the others.

*Legs*.—Tarsus I with a few scopula-like hairs on the under surface; metatarsus with 4 stout spines on the under surface; the two on the outer edge being closer together than those on the inner. Tarsus II



also with a few scopular hairs and a line of bristles down the centre; metatarsus also with 4 spines. Metatarsi III and IV with stout apical combs.

*Pedipalps*.—Femur with 2 distal and 1 nearly median spines on the dorsal surface. Patella much larger than the tibia, furnished on the outer under side with an apical projection and a brush of long stiff hairs. Tibia bearing the usual apical projection. Palpal organ as in fig. 76B.

*Measurements*.—Carapace (largest examples), ♀ 2.9 mm., ♂ 3 mm. in length. Total length, ♀ 6.7 mm., ♂ 7.6 mm.

Two ♀♀ (B 2390) from Cookhouse (Somerset East), taken by Dr. W. F. Purcell, October 1905, conform to this species. They do not show such distinct bicolouration of the legs as in the Salisbury specimens, the legs being more uniformly rufous. The slight lightening or reddening of the tarsi and metatarsi, however, is fairly common among *Zelotes*.

Also 1 ♀ (150,621). Durban, Natal. (Dr. W. F. Purcell, September 1905.)

12 ♀♀ and 5 ♂♂ (B 4156). Mfongosi, Zululand. (W. E. Jones, February 1918.)

1 ♀ (B 4376). Acornhoek, E. Transvaal, Low Veld. (R. W. Tucker, December 1918.)

1 ♂ (B 228). Burghersdorp, O.F.S. (Dr. Kannemeyer), appears referable to this species; the specimen, however, is somewhat damaged.

#### ZELOTES SCLATERI, n. sp. (Fig. 77.)

*Specimens*.—1 ♀ (14,425 type). Korokoro, Basutoland. (L. Selater, 1905.)

*Colour*.—Carapace dark brown with radiate infuscation; legs a little lighter than the carapace, and becoming slightly paler distally; femur I with light patch on inner and outer surfaces. Abdomen strongly infuscated dorsally and ventrally.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{3}$  tarsus I, and to metatarsus and  $\frac{2}{3}$  tarsus IV.

*Clypeus*.—Equal to the diameter of an anterior lateral eye.

*Eyes*.—Posterior medians slightly inclined inwards; nearer to laterals than to each other.

*Chelicera*.—Superior border with 3 stout teeth, inferior border with 2 denticles.

*Legs*.—Metatarsus I slightly scopulated anteriorly and bearing 2

spines basally on the under surface, metatarsus II similar. Tarsus III bearing bristles, but no scopular hairs; metatarsus heavily spined, IVth leg similar.

*Vulva*.—As in fig. 77.

*Measurements*.—Length of carapace, 2.6 mm. Total length, 6 mm.

#### ZELOTES SIMONI, Purcell.

1907. *Melanophora simoni*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 329, pl. xv, fig. 49.

*Specimens*.—3 ♀♀ (4343 types). Hout Bay, C. Penins. (Dr. W. F. Purcell, March 1898.)

*Colour*.—Light patch on inner side femora I absent.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{4}$  tarsus I, and to metatarsus and tarsus IV.

*Eyes*.—Posterior medians slightly nearer to laterals.

*Clypeus*.—Wider than the diameter of an anterior lateral eye.

*Sternum*.—Length not quite  $1\frac{1}{4}$  times the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 4 teeth, inferior border with 2 teeth.

*Spinners*.—Bearing 4 apical tubules.

*Legs*.—Metatarsus I scopulate almost to base, bearing 2 basal spines; metatarsi III and IV with strong apical combs.

*Vulva*.—As in fig. 49, *loc. cit.*

*Measurements*.—Length of carapace, 2.6 mm.

#### ZELOTES UNGULA, n. sp. (Fig. 78, A and B.)

*Specimens* :—

1 ♂ and 1 ♀ (B 4158 types). Mfongosi, Zululand. (W. E. Jones, February 1918.)

1 ♂ (8437) and 1 ♂ (12,432). Dunbrody. (Fr. O'Neil, 1906.)

♀ *Colour*.—Carapace medium brown, slightly olivaceous, mottled, and with slight radiate infuscations. Abdomen black dorsally, and very slightly lighter ventrally. Sternum, coxae, etc., light brown. Legs dark and tinged olivaceous as far as the metatarsi; tarsi and metatarsi light orange red.

*Carapace*.—Equal in length to tibia and metatarsus I, and to metatarsus and  $\frac{1}{2}$  tarsus IV.

*Clypeus*.—About  $\frac{2}{3}$  the diameter of an anterior lateral eye.

*Eyes*.—Posterior medians round to subangular, equidistant from each other and laterals, or nearer each other.

*Chelicera*.—Superior border with 4 teeth, inferior border with 4 smaller teeth.

*Legs*.—Tarsus I clothed with stout hairs, but apparently without scopular hairs on the under surface; metatarsus without scopular hairs, and bearing 2 spines towards the base of the under surface; 2nd leg similar, metatarsus with 2 additional spines distally. Tarsus III clothed with stout bristles on the under surface, metatarsus well spined and bearing a strong comb of bristles apically and slightly towards the outer surface; IVth leg similar; comb of bristles on metatarsus very dense and more towards the centre. Tarsal claws strongly dentate.

*Spinners*.—With 5 apical fusules.

*Vulva*.—As in fig. 78A, occupying the entire space between the lung operculae; on one side, the loop immediately above the basal circular “plaques” is underdeveloped, and on the other side overdeveloped; they are figured, however, as symmetrical.

♂ *Colour*.—Slightly darker than the ♀; abdomen with a dark brown dorsal scutum extending over nearly  $\frac{1}{2}$  the total length.

*Carapace*.—Equal in length to tibia and metatarsus I, and to metatarsus and  $\frac{1}{2}$  tarsus IV.

*Eyes*.—Posterior medians subangular, close together, and subequal to the laterals.

*Clypeus*.—Half the diameter of an anterior lateral eye.

*Chelicera*.—As in ♀; inferior basal tooth very small.

*Legs*.—Similar to the ♀; metatarsus I with the addition of an anterior spine on the inner side of the under surface.

*Spinners*.—Bearing 4 apical tubules, as in ♀.

*Pedipalps*.—Tarsus broad, clothed dorsally with hairs, of which the anterior ones are fine and scopular-like; palpal organ as in fig. 78B, bearing 2 claw-like processes, and a long curved style. Tibia bearing a stout apical process on the outer side, and a ridge-like projection apically on the inner side; dorsal surface thickly clothed with long black hair.

*Measurements*.—Length of carapace, ♂ and ♀, 2.5 mm. Total length, ♂ and ♀, 5.5 mm.

The specimens from Dunbrody are larger in size than type specimens: No. 8434 measuring 3 mm. carapace and 6.5 mm. total length; No. 12,432, 3.7 mm. and 6.8 mm. respectively. Further, they are redder in colour, and the abdomen more testaceous, whilst the eyes tend towards



the formation shown in *Camellina*. The palpal organ, however, undoubtedly coincides with *Z. angula*.

Also 1 ♂ (Grahamstown Museum). Alicedale. (F. Cruden.)

1 ♂ (Grahamstown Museum). Steytlerville. (Miss B. Geard, December 1916.)

*ZELOTES VESPERTILIONIS*, n. sp. (Fig. 79, A and B.)

*Specimens*.—2 ♀♀ and 2 ♂♂ (B 3095 types); 1 ♂ (B 3252); and 1 ♀ (B 3212). Salisbury, S. Rhodesia. (R. W. Tucker, April 1917.)

♀ *Colour*.—Carapace dark brown, infuscated marginally, and with slight radiate infuscations. Legs slightly lighter and redder distally. Abdomen infuscated testaceous on the upper surface, and paler below. Sternum and mouth-parts reddish brown; coxae lighter brown. No light areas on femora of 1st legs.

*Carapace*.—Length subequal to tibia and metatarsus I, and equal to metatarsus and at least  $\frac{1}{2}$  tarsus IV.

*Eyes*.—Moderately large, conforming to the diurnal arrangement save that the posterior medians are slightly nearer to each other than to the laterals. Clypeus deeper than the diameter of an anterior median eye, but less than  $\frac{1}{2}$  the diameter of an anterior lateral.

*Sternum*.—Length  $1\frac{1}{4}$  times the greatest breadth.

*Labium*.—Nearly twice as long as broad.

*Chelicera*.—Superior margin with 4 strong teeth; inferior margin with 4 smaller ones, the proximal one being minute.

*Legs*.—Tarsi I and II slightly scopulate. Metatarsi I and II with 1 median and 2 basal spines on the under surface. Metatarsi III and IV heavily spined, and each furnished with a dense apical comb of setae on the under surface. Tarsal claws strongly toothed.

*Vulva*.—As in fig. 79A.

*Spinners*.—Inferior spinners with 7–8 dark apical tubules.

♂ *Colour*.—As in ♀. Abdomen with a dark brown dorsal scutum extending over  $\frac{1}{3}$  of its length. Ventral surface with a lighter brown epigastric scutum, bearing a lip-like generative opening.

*Carapace*.—Length equal to tibia and nearly  $\frac{2}{3}$  metatarsus I, and to metatarsus and  $\frac{1}{3}$  tarsus IV.

*Eyes*.—As in ♀; posterior medians nearly touching each other.

*Sternum*.—As in ♀.

*Chelicera*.—Superior margin with 4 teeth, the middle ones being the largest; inferior margin with 3 small teeth.

*Legs.*—Tarsi I and II not scopulated. Metatarsus I bearing no spines; metatarsus II with 1 median and 2 basal spines on the under surface. Metatarsi III and IV with strong apical combs.

*Pedipalps.*—Femur bearing 3 spines distally on dorsal surface; patella smaller than tibia; latter bearing a stout, blunt apical projection on outer surface. Palpal organ as in fig. 79B.

*Spinners.*—Inferior spinners with 7 apical tubules.

*Measurements.*—Carapace, ♀ 4.3 mm., ♂ 3.7 mm. long. Total length (chelicera to end of abdomen), ♀ 10.2 mm., ♂ 9 mm.

Also 2 ♀♀ (B 3864). Salisbury. (Rev. J. O'Neil, 1917.)

1 ♀ (B 3889). Insiza, S. Rhodesia. (G. French.)

#### ZELOTES VRYBURGENSIS, n. sp. (Fig. 80.)

*Specimens.*—1 ♀ (B 3326 type). Vryburg. (J. S. Brown, April 1917.)

*Colour.*—Carapace dark brown centrally, and almost black anteriorly and marginally; general appearance mottled. Abdomen dark grey, with testaceous mottlings. Sternum very dark brown; coxae lighter and mottled above and below. Legs dark olivaceous brown, lighter and slightly redder distally. Femora of 1st legs with an almost white patch on the inner surface, and a similar patch extending over the entire length of the under portion of the outer surface.

*Carapace.*—Equal in length to tibia and metatarsus I, and to metatarsus and  $\frac{1}{2}$  tarsus IV.

*Clypeus.*—Slightly exceeding the diameter of an anterior lateral eye.

*Eyes.*—Posterior medians round, much nearer to laterals than to each other.

*Sternum.*—Length only slightly exceeding the greatest breadth.

*Chelicera.*—Superior border bearing 4 teeth, of which the two middle ones are the largest; inferior border with 2 small teeth.

*Legs.*—Tarsus I bearing a scopula of club-shaped hairs; metatarsus also with similar hairs, especially anteriorly; and two spines basally on the under surface. Tarsus and metatarsus II similar, but the metatarsus with an additional median spine on the inner border of the under surface. Metatarsi III and IV with the usual apical comb of bristles.

*Vulva.*—As in fig. 80; anterior border overlapped by dense black hairs.

*Spinners.*—Inferior spinners with 5 apical tubules.

*Measurements.*—Carapace 3.1 mm. in length. Total length, 9.8 mm.

## ZELOTES ZONOGNATHA, Purc.

1907. *Melanophora zonognatha*. Purcell in A.M.N.H., ser. 7, vol. xx, p. 331, pl. xv, figs. 58 and 59.

*Specimens*.—4 ♀♀ (13,883 types), 4 ♂♂ (11,971). Eierfontein, near Hanover. (S. C. Schreiner, December 1901–February 1902.)

♀ *Colour*.—No light patch on inner surface of femora I.

*Carapace*.—Equal in length to tibia and  $\frac{5}{6}$  metatarsus I, and slightly less than metatarsus and tarsus IV.

*Eyes*.—Posterior medians nearer to the laterals than to each other.

*Clypeus*.—Less than the diameter of an anterior lateral eye.

*Chelicera*.—Superior margin with 5 teeth, one of which is very small; inferior with 3, two of which are medium sized.

*Sternum*.—Length at least  $1\frac{1}{4}$  times the greatest width.

*Spinners*.—Bearing 6 apical fusules.

*Legs*.—Metatarsus scopulate nearly to base and spineless; metatarsi III and IV with strong apical combs.

*Measurements*.—Length of carapace, ♂ and ♀, 2.6 mm.

♂ *Colour, Clypeus, and Chelicera*.—As in ♀.

*Carapace*.—Equal in length to tibia and metatarsus I, and to metatarsus and  $\frac{3}{4}$  tarsus I.

*Eyes*.—Posterior medians equidistant from laterals and each other, or perhaps slightly nearer to the laterals.

*Sternum*.—Length barely equal to  $1\frac{1}{4}$  times the greatest width.

*Spinners*.—Bearing 5–6 apical fusules.

*Legs*.—Metatarsus I scopulate anteriorly and bearing no spines; metatarsus III with strong setal comb, IV with a moderate comb.

*Pedipalps*.—Palpal organ as in fig. 59, *loc. cit.*

## ZELOTES ALBANICUS, Hewitt.

1915. *Melanophora albanicus*. Hewitt Records, Albany Museum, vol. iii, No. 2, p. 100, fig. 8B.

*Specimens*.—1 ♀ type (Grahamstown Museum). Grahamstown. (C. Sole, July 1901.)

*Colour*.—Light patch present on inner surface of femur I.

*Carapace*.—Equal in length to tibia, metatarsus, and  $\frac{1}{4}$  tarsus I, and to metatarsus and  $\frac{1}{2}$  tarsus IV.

*Eyes*.—Posterior medians much nearer to laterals.

*Sternum*.—Length only slightly exceeding greatest breadth.



*Clypeus*.—Equal to nearly  $1\frac{1}{2}$  times diameter of an anterior lateral eye.

*Chelicera*.—Inferior border with 1 tooth.

*Legs*.—Metatarsus I scopulate nearly to base, and bearing 2 basal spines; strong apical comb on metatarsus III, comb on metatarsus IV weak and lateral.

*Vulva*.—See fig. 8B, *loc. cit.* Anterior lateral shading shown is not apparent in specimen. The main distinction between this species and *Z. gooldi* is that the central portion of the vulva is narrower than the lateral portions; the species is undoubtedly very narrowly separated from *gooldi*.

*Measurements*.—Length of carapace, 3 mm. Total length, 7.2 mm.

ZELOTES FULIGINOIDES, Hewitt.

1915. *Melanophora fuliginoides*. Hewitt in Records, Albany Museum, vol. iii, No. 2, p. 101, fig. 8A.

*Specimens*.—1 ♀ type (Grahamstown Museum). Grahamstown. (J. Hewitt.)

*Colour*.—Light patch on inner side of femora dull and inconspicuous.

*Carapace*.—Equal in length to tibia and metatarsus I, and to metatarsus and tarsus IV.

*Eyes*.—Medians round and decidedly nearer to the laterals.

*Clypeus*.—Slightly less than the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior border with 2.

*Sternum*.—Slightly longer than broad.

*Legs*.—Metatarsus I without scopula, and with 2 fine basal spines; metatarsi III and IV with strong apical combs.

*Spinners*.—Inferior spinners with 5 apical tubules.

*Vulva*.—See text-fig. 8A, *loc. cit.* In appearance the vulva bears considerable resemblance to that of various specimens of *montana*, to which the species is undoubtedly closely allied.

*Measurements*.—Length of carapace, 2.1 mm.

GEN. POECILOCHROA, Westr.

Key to ♀ Species.

- (4). 1. Superior border of chelicera with 3 teeth, inferior with one small tooth.
- (3). 2. Clypeus scarcely exceeding diameter of anterior lateral eye . . . *involuta*.
- (2). 3. Clypeus twice diameter of anterior lateral eye . . . *anomalus*.
- (1). 4. Superior border of chelicera with 1 tooth, inferior border with 0–1 denticles.
- 5. Clypeus scarcely exceeding diameter of anterior lateral eye . . . *capensis*.

## POECILOCHROA CAPENSIS, Strand.

1909. *Poecilochroa capensis*. Strand in Deutsch Sudpolar Exped., 1901-3, Bd. 10, Hft. 5, p. 552.

“*Locality*.—Fishoek, C. Penins. 1 subadult ♀, July 8, 1903.

“*Cephalothorax*.—Black to light brownish, with white appressed hairs. Sternum pure black. Mandibles brown internally, and lighter redder apically. Ocular region deep black; maxillae and labium black, former with whitish anterior and inner border. Legs brownish black, and on I and II the joints are yellow from, and including, patellae onwards; the former, however, are somewhat infuscated. On III and IV only metatarsi and tarsi are yellowish. Abdomen deep black above, with weak metallic shimmer, and with pure white markings at the basis, in middle an indistinct patch, and on each shoulder an angular spot; these spots are distant from one another by fully their diameter. Over the middle of the abdomen a narrow cross band, beginning from the margin of the belly area, narrowly interrupted dorsally, and bent convexly forward from the lower half of sides; near end of back 2 small spots, distant from one another by breadth of all the spinnerettes; belly with 2 white, somewhat elongated longitudinal spots in middle, distant from one another by fully their breadth, and diverging slightly in front.

“*Spinnerettes*.—Brownish black, scarcely darker at ends.

“*Eyes*.—Seen in fluid. Posterior row straight, eyes equally large, or perhaps the side eyes a little larger. Middle eyes diverging posteriorly, distant from one another by double their longest diameter, and a little further distant from the side eyes. Front row shorter and so strongly procurved that a straight line drawn tangential to the lower margin of middle eyes will pass through the centre of the side eyes. Middle eyes largest of all eyes, distant from one another  $\frac{2}{3}$  their diameter, and almost touching the side eyes; the latter 1 diameter from the clypeus margin. Median ocular area as broad anteriorly as posteriorly, but longer than broad.

“*Chelicera*.—Upper margin with 1 small tooth, lower margin 0-1 granules; upper margin also with a row of bent bristles.

“*Epigyne*.—Unripe; epigaster coloured like the belly; behind, in the middle of the groove, is a small white spot; somewhat farther in front are 2 smallish, round grey spots, forming a cross band; distant from one another by less than their diameter, and forming with the posterior spot a triangle, which is longer than anterior breadth.

“*Legs*.—Tarsal claws toothed and bearing fascicles which are formed

of remarkably strongly widened hairs. Tarsi I and II scopulate, III and IV with bristles only, or mixed with scopular hairs on sides. Metatarsi I and II scopulate in apical  $\frac{2}{3}$ . All femora dorsally, near base with 1 long outstanding spine, as also 1 or 1.1 above; in addition, III and IV at least each with 1 spine in front and behind on the point; 3, in addition, above, in front, in the middle, 1. All patellae above at point with 1 bristle, which sometimes can be very long and fine; patella III always with 1 spine posteriorly in centre. Metatarsi I and II with 1, sometimes 2 spines on under surface. Tibia I with 1 spine anteriorly on under surface; posterior tibiae and metatarsi with many spines.

“Very fine thoracic stria present.

“*Abdomen*.—Broadly elliptical, both endsequally blunted, flattened above. Lower spinnerettes long, about equal to the front tarsi, broadly truncate apically, also slightly curved convexly outwards, and distant from one another by scarcely their breadth; upper ones  $\frac{2}{3}$  as long as lower body length.”

POECILOCHROA ANOMALUS, Hewitt. (Fig. 81.)

1915. *Xerophoeus anomalus*. Hewitt in Records, Albany Museum, vol. iii, No. 2, p. 98, fig. 6.

*Specimens* :—

1 ♀ (5141 type). Pocaltsdorp, George Div., C. Col. (Miss L. Leipoldt.)

1 ♀ and jv. (B 1994). Grahamstown. (Dr. W. F. Purcell, October 6, 1905.)

*Colour*.—Carapace dark brown with radiate infuscations and mottling; abdomen testaceous, infuscated dorsally; sternum, coxae, etc., light brown; femora of legs dark, patellae pale yellow, tibiae pale brown; femora I with light patch as in *Prothesima*. Carapace, abdomen, and sternum without pubescence.

*Eyes*.—Anterior row lightly procurved; medians larger than the laterals and touching them. Posterior row straight, eyes practically equidistant, medians smaller than the laterals. Median ocular area rectangular, and longer than wide. Clypeus twice the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 contiguous teeth, the middle one being the largest; inferior border with 1 small tooth.

*Legs*.—Tarsus and metatarsus I scopulate to the base; metatarsus bearing one basal spine; tibia with 1 apical and 1 anterior median



spine on the under surface; 2nd leg similar. Metatarsus III sparsely scopulate, and bearing no anterior comb of bristles; tarsus IV bearing bristles and a few scopular hairs on the under surface; metatarsus long, heavily spined, and also without an apical comb.

*Vulva*.—As in fig. 81: fig. 6, *loc. cit.* Hewitt, does not seem to adequately represent the actual formation, which is as in figure given.

*Measurements*.—Length of carapace, 2 mm. Total length, 6.4 mm.

The specimen from Grahamstown (B 1994) is much darker, especially in the sternum and legs, and bears whitish appressed hairs on the carapace; the abdomen is also clothed, and not bare as in type. The abdomen also bears a dark central anterior band, indistinct bands of whitish hairs anteriorly, and scattered hairs posteriorly. Clypeus less than twice the diameter of an anterior lateral eye. Tibia I with a basal spine in addition to those mentioned above. Vulva identical but somewhat longer.

Also 1 ♀ (14,694) from Kentani. (H. P. Abernethy, 1909.) This specimen agrees with type.

#### POECILOCHROA INVOLUTA, n. sp. (Fig. 82.)

*Specimens*.—1 ♀ (7923 type). Avontuur, near Stromsvlei, Swellendam Div. (Dr. W. F. Purcell, August 1900.)

*Colour*.—Carapace very dark, infuscated marginally, and with an infuscated network from the median ocular area to the stria. Abdomen dull grey brown, very slightly lighter on the under surface. Sternum, coxae, femora, etc., dark; legs lighter from patellae onwards; pedipalps and apices of chelicera, pale. Femur I bearing a light patch on the external surface. Integument clothed with light brown sparse pubescence; present also on the sternum and carapace.

*Eyes*.—Anterior row close together, and procurved; medians slightly larger than the laterals and touching them. Posterior row straight, medians subangular, inclined inwards, and slightly nearer to each other than to the laterals. Clypeus slightly exceeding the diameter of an anterior eye.

*Chelicera*.—As in *anomalus*.

*Legs*.—Tarsus and metatarsus I scopulate to the base; metatarsus I with 1 inner basal spine; tibia with 1 apical, 1 median, and 1 basal spine, and bearing a few scopular hairs anteriorly. Metatarsus II with 2 basal spines, tibia with 2 apical and 1 median spine.

Tarsus IV scopulated anteriorly on the under surface; metatarsus long and heavily spined.

*Vulva*.—As in fig. 82.

*Measurements*.—Carapace, 2.4 mm. long. Total length, 6.4 mm.

GEN. LATONIGENA, Sim.

LATONIGENA AFRICANA, n. sp. (Fig. 83.)

*Specimens*.—

1 ♀ (B 3448 type). Matroosberg Mts., Ceres (3500 ft.). (R. W. Tucker, January 1917.)

1 ♀ (150,696). Howich, Natal. (Dr. W. F. Purcell, September 1905.)

*Colour*.—Carapace yellowish brown, clothed with sparse dark hairs; legs slightly lighter than the carapace, and, especially in the case of the anterior legs, darker distally; abdomen uniform dull testaceous.

*Carapace*.—Oval, narrowing anteriorly, moderately convex, and with the median stria practically absent.

*Eyes*.—Anterior row from in front straight to recurved; medians much larger than the laterals and closer to them than to each other. Posterior row hardly wider than the anterior row and lightly procurved; medians subangular, inclined inwards, larger than the laterals, and slightly nearer to them than to each other; laterals subequal to the anterior laterals and close to them. Clypeus equal to the diameter of an anterior lateral eye.

*Sternum*.—Narrow oval, and slightly produced anteriorly.

*Chelicera*.—Inferior border inconspicuous and muticuous; superior border resembling T, fig. 327, Hist. Nat. des Araign, Simon, p. 364; the curve being somewhat less prominent.

*Labium*.—Long, extending the length of the maxillæ, and tapering slightly anteriorly; laminated laterally and anteriorly; maxillæ long, constricted medially and slightly wider anteriorly than posteriorly; also with laminated inner borders.

*Legs*.—Short and moderately stout; tarsus I scopulate and spineless; metatarsus bearing a few scopular hairs and 0-1 weak spines; tibia stout and not scopulate, bearing 0-1 spines on the under surface; 2nd leg similar, but not quite so stout. Legs III and IV well spined; tarsi moderately scopulate and bearing numerous spines on the under surface. All tarsi bearing dense fascicles and strongly dentate claws.

*Spinners*.—Inferior spinners short and cylindrical, over  $\frac{1}{2}$  their

length apart; tubules retracted; apices fringed with plumose hairs; median, spinners slender, close together, and about the same length as the inferior spinners. Superior spinners wide apart and bearing a small apical segment. Distinct anal tubercle above the spinners.

*Vulva*.—As in fig. 83.

*Measurements*.—Length of carapace, 2 mm. Total length, 7.5 mm. (abdomen distended).

The specimen from Natal agrees with above details, but is darker and redder in colour, and the abdomen is normal in size. (Carapace, 2.5 mm. Total length, 5.5 mm.)

This is the first record of this genus from S. Africa, and in some respects it diverges from the S. American type; the anterior median eyes are much larger, the anterior row is not procurved, and its clypeus is barely equal to the diameter of an anterior lateral eye; also, the posterior median eyes are oval and slightly larger than the laterals.

Apart from these ocular differences, the specimens agree with the generic description, and it seems valid to record that genus as now occurring in S. Africa.

#### DIAPHRACTUS LEIPOLDTI, Purc.

1907. *D. leipoldti*. Purcell in A.M.N.H. (7), vol. xx, p. 313, pl. xiii, fig. 19.

1915. *D. kalaharicus*. Hewitt in Rec. Albany Museum, vol. iii, No. 2, p. 99, fig. 7.

*Specimens*.—

1 ♀ (3581 type). Rondegat, S.E. Clanwilliam. (G. Leipoldt, 1898.)

1 ♀ (Grahamstown Museum). N.W. Gordonia. (C. A. Anderson.)

*Colour*.—Carapace pale reddish brown, darker anteriorly; legs yellow, anterior pairs redder distally. Sternum and mouth parts light reddish brown; abdomen testaceous. Appressed hairs of abdomen, legs, etc., plumose at base; similar hairs are also present on Xerophaeus.

*Carapace*.—Width across posterior row of eyes about  $\frac{2}{3}$  greatest width. Length equal to patella, tibia, and about  $\frac{1}{2}$  metatarsus I, and to tibia, metatarsus, and  $\frac{1}{4}$  metatarsus IV.

*Clypeus*.—Equal to about  $\frac{1}{2}$  the diameter of anterior lateral eye.

*Eyes*.—Anterior row almost straight; eyes about equidistant,



medians a little larger. Posterior row wider, very slightly procurved ; medians smaller than the laterals and much farther from them than from each other.

*Chelicera.*—Superior border with 3 teeth, inferior border muticous.

*Sternum.*—Length equal to  $1\frac{1}{2}$  times the greatest breadth.

*Legs.*—Metatarsus I scopulate to base, and with 2 basal spines. Tibia I with very few scopular hairs anteriorly on inner side, and with 3 spines down inner side and 2 down outer side of under surface. Tarsus IV scopulate to base.

*Vulva.*—As in Purcell's fig. 19, *loc. cit.* The 2 longitudinal markings depicted in the middle portion are contiguous anteriorly, thus leaving a median pale line which is shown in Hewitt's fig. 7, *loc. cit.* ; also the lateral anterior curves of the median portion, depicted in Hewitt's fig., are present also in Purcell's type, but are faint and not shown in the figure.

*Measurements.*—Anterior width of carapace, 2 mm. Length of carapace, 4 mm.

GEN. SCOTOPHAEUS, Simon.

*Key to ♀♀.*

- (4). 1. Anterior width of carapace equal to or exceeding  $\frac{1}{2}$  the greatest width.
- (3). 2. Anterior median eyes  $\frac{1}{2}$  a diameter or less apart ; inferior border of chelicera muticous . . . . . *lamperti.*
- (2). 3. Anterior median eyes over  $\frac{1}{2}$  a diameter apart, inferior border of chelicera with 1 tooth . . . . . *relegatus.*
- (1). 4. Anterior width of carapace less than  $\frac{1}{2}$  the greatest width.
- (6). 5. Posterior border of maxillae slightly emarginate . . . . . *marleyi.*
- (5). 6. Posterior border of maxillae not emarginate . . . . . *purcelli.*

SCOTOPHAEUS LAMPERTI, Strand.

1906. *S. lamperti.* Strand in Jahrb. Nass. Vereins f. Naturkunde, 59, p. 28.

“*Cephalothorax.*—Anterior width more than  $\frac{1}{2}$  greatest width. Length equal to tibia, metatarsus and  $\frac{1}{4}$  tarsus I and to metatarsus and  $\frac{3}{4}$  tarsus IV.

“*Eyes.*—Anterior medians  $\frac{1}{2}$  a diameter apart. Posterior row weakly procurved, exceeding the length of the anterior row by well over the diameter of a lateral eye ; median eyes  $\frac{1}{2}$  their longest diameter part, and well over a long diameter from the laterals.

“*Clypeus.*—Subequal to the diameter of an anterior lateral eye.

“*Chelicera*.—Superior border with 3 teeth, inferior border with none.

“*Sternum*.—Widest portion between coxae II and III; equally narrowed at both ends, short, and not sharply pointed; truncate in front, and not much broader than labium at base.

“*Legs*.—Tibia I apparently without scopula; bearing 1 apical and 1 median spines.

“*Vulva*.—(Undeveloped). Appears as 2 small brownish longitudinal spots, distant from one another by more than their diameter, and situate immediately in front of epigynal fold.

“*Measurements*.—Cephalothorax, 4.3 mm. long, 3 mm. broad. Anterior width, 1.8 mm.

“*Locality*.—Rietmond, Gibeon, S.W. Afr. (C. Berger).”

The above description is extracted from Strand's rather lengthy description, *loc. cit.*

#### SCOTOPHAEUS MARLEYI, n. sp. (Fig. 84.)

*Specimens*.—1 ♀ (B 1304 type). Durban, Natal. (H. W. Bell Marley, July 1915.)

*Colour*.—Carapace golden brown, very slightly darker anteriorly; abdomen testaceous with brown pubescence dorsally; legs slightly paler than the earapace, darker distally.

*Carapace*.—Width of cephalic portion slightly less than  $\frac{1}{2}$  the greatest width of the thoracic portion; surface bearing sparse dark hairs.

*Eyes*.—Anterior row straight to procurved; medians large and their own diameter apart; nearly touching the laterals. Posterior row slightly procurved, and only a very little wider than the anterior row; eyes approximately equidistant, medians smaller than the laterals.

*Chelicera*.—Superior groove with 3 fairly widely separated teeth, inferior groove with 1 small tooth.

*Maxillæ*.—Posterior outer border slightly emarginate.

*Legs*.—Tarsus and metatarsus I densely scopulate to base; latter with 1 basal spine on the under surface; tibia with a slight scopula on the anterior inner border of the under surface, and 1 small apical spine; 2nd leg with an anterior as well as a basal spine on the inner under surface of the metatarsus, and tibia without scopular hairs. Tarsus III with scopular hairs and bristles on the under surface; metatarsus with no scopular hairs and strongly spined; 4th leg

similar, metatarsus longer and more heavily spined. All tarsi with short, dense fasciculi.

*Vulva*.—As in fig. 84.

*Measurements*.—Carapace, 4·3 mm. long. Total length, 10·5 mm.

SCOTOPHAEUS PURCELLI, n. sp. (Fig. 85.)

*Specimens*.—1 ♀ (150,489 type). Modderfontein, N. of Johannesburg, Transvaal. (Dr. W. F. Purcell, August 1905.)

*Colour*.—Carapace and legs medium brown, legs slightly darker distally; abdomen dull testaceous, slightly darker posteriorly, and sparsely clothed with appressed dark hairs.

*Carapace*.—Similar to *marleyi*.

*Eyes*.—Anterior row slightly procurved; medians larger than the laterals, but not touching them. Posterior row slightly procurved, and only a little wider than the anterior row; medians nearer to each other than to the laterals, and subequal to them.

*Chelicera*.—As in *marleyi*.

*Maxillæ*.—Not emarginate on the outer border.

*Legs*.—Tarsus and metatarsus I scopulate to the base; tibia with a few scopular hairs anteriorly on each side, and 1 apical spine on the under surface; 2nd leg with no scopula on the tibia, and 1 basal spine on the under surface of the metatarsus. Tarsus III scopulate to the base, and with bristles down the centre; metatarsus with coarse scopular hairs anteriorly on both sides, and strongly spined; 4th leg similar; metatarsus with only a few scopular hairs anteriorly on the outer side of the under surface.

*Vulva*.—As in fig. 85.

*Measurements*.—Carapace, 3·1 mm. long. Total length, 7 mm.

SCOTOPHAEUS RELEGATUS, Purc.

1907. *S. relegatus*. Purcell in A.M.N.H. (7), vol. xx, p. 312, pl. xiii, figs. 18 and 18A.

1908. *S. relegatus*. Purcell in Schultze Zool. Forschungsreise in Sudafrika, p. 235.

*Specimens* :—

1 ♂ (4327 type). Cape Town. (E. A. Morris, July 1898.)

1 ♂ (3974). Robben Island, C. T. (A. Tucker, December 1896.)

1 ♂, 9 ♀♀ (3♀♀, 150, 596). Luderitz Bay, Namaqualand. (L. Schultze, 1904.)



♂ *Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length equal to tibia and metatarsus I and to metatarsus and tarsus IV.

*Eyes*.—Anterior row straight to procurved, medians  $\frac{1}{2}$  diameter apart. Posterior row moderately procurved, medians nearly a short diameter apart, just over a long diameter from laterals.

*Clypeus*.—Equal to diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior with 1.

*Sternum*.—Length over  $1\frac{1}{2}$  times greatest breadth.

*Legs*.—Tibia I with a few scopular hairs anteriorly on inner side; 2 apical and 2 median and 1 basal spines.

*Pedipalps*.—Palpal organ as in fig. 18A, *loc. cit.* Tibial process small, stout, terminating in a sharp incurved claw.

*Measurements*.—Length of carapace, ♂, 3.5 mm.; ♀, 5.2 mm. Anterior width, ♂, 1.5 mm.; ♀, 2.1 mm.

♀ *Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length equal to tibia, metatarsus, and tarsus I, and to tibia and just over  $\frac{1}{2}$  metatarsus IV.

*Eyes*.—Anterior row slightly procurved, medians  $\frac{3}{4}$  diameter apart. Posterior medians sub-rotund, nearly 2 diameters apart, and about 3 from the laterals.

*Clypeus*.—Slightly less than the diameter of an anterior lateral eye.

*Sternum and chelicera*.—As in ♂.

*Legs*.—Metatarsus I with no basal spines. Tibia I with scopula  $\frac{1}{2}$  way down inner side, and  $\frac{1}{3}$  outer; no spines on under surface.

*Vulva*.—Consisting of a light brown oval plate, twice as long as broad, the anterior  $\frac{1}{2}$  clear, the lower  $\frac{1}{2}$  with 2 diffuse dark-brown oval lateral markings, between which are 2 short outwardly curved, narrow, dark markings meeting posteriorly, but separate anteriorly, each curving outwards sharply into an almost circular hook; region between these dark markings depressed, and leading anteriorly into a small hooded pocket.

#### GEN. XEROPHAEUS, Purcell.

##### Key to ♀♀.

- (29). 1. Vulva with anterior hooded pocket.  
 (18). 2. Length of carapace equal to tibia, metatarsus and  $\frac{1}{4}$  or less tarsus I.  
 (6). 3. Length of carapace equal to metatarsus and  $\frac{1}{2}$  or less tarsus IV.  
 (5). 4. Posterior row of eyes moderately procurved, inferior border of chelicera  
           muticous . . . . . *longispina*.  
 (4). 5. Posterior row of eyes well procurved, inferior border of chelicera 1  
           denticle . . . . . *vickermanni*.

- (3). 6. Length of carapace equal to metatarsus and over  $\frac{1}{2}$  tarsus IV.  
 (12). 7. Posterior row of eyes moderately procurved.  
 (11). 8. Inferior border of chelicera muticous.  
 (10). 9. Tibia of 1st leg with basal spine on under surface . . . *anthropoides*.  
 (9). 10. Tibia of 1st leg without basal spine . . . . . *spoliator*.  
 (8). 11. Inferior border of chelicera with one tooth . . . . . *lunulifer*.  
 (7). 12. Posterior row of eyes well procurved.  
 (16). 13. Anterior median eyes  $\frac{1}{2}$  their diameter or less apart.  
 (15). 14. Tibia of 1st leg without basal spines on under surface. Vulva with large oval dark lateral marks, between which runs a laterally-ridged groove with hooded pocket at anterior end . . . . . *capensis*.  
 (14). 15. Tibia of 1st leg without basal spines on under surface. Vulva somewhat similar to *capensis*, central groove not ridged, and with a black depression at posterior half on each side of groove . . . *tenebrosus*.  
 (13). 16. Anterior median eyes over  $\frac{1}{2}$  a diameter apart.  
 17. Tibia I with basal spine on under surface. Vulva with 2 large black oval plates anteriorly, and 2 small dark depressions posteriorly; no distinct median groove and no anterior pocket visible . . . *silvaticus*.  
 (2). 18. Length of carapace equal to tibia, metatarsus and more than  $\frac{1}{4}$  tarsus I.  
 (22). 19. Length of carapace equal to metatarsus and  $\frac{1}{2}$  or less tarsus IV.  
 (21). 20. Posterior row moderately procurved. Posterior medians less than  $1\frac{1}{2}$  long diameter from the laterals . . . . . *aridus*.  
 (20). 21. Posterior row well procurved. Posterior medians  $1\frac{1}{2}$  or more long diameter from laterals . . . . . *lightfooti*.  
 (19). 22. Length of carapace equal to metatarsus and over  $\frac{1}{2}$  tarsus IV.  
 (26). 23. Inferior border of chelicera muticous.  
 (25). 24. Posterior medians  $1\frac{1}{2}$  or more long diameter from laterals. Tibia I scopulate anteriorly . . . . . *hottentotus*.  
 (24). 25. Posterior medians less than  $1\frac{1}{2}$  long diameter from laterals. Tibia I not scopulate . . . . . *phaseolus*.  
 (23). 26. Inferior border with 1 tooth.  
 (28). 27. Tibia I with 1 apical median and 1 basal spines on under surface . . . . . *flammeus*.  
 (27). 28. Tibia I with 1 spine apically only, on under surface . . . *spiralifer*.  
 (1). 29. Vulva with anterior tongue.  
 (47). 30. Length of carapace equals tibia, metatarsus and  $\frac{1}{4}$  or less tarsus I.  
 (42). 31. Length of carapace equals metatarsus and  $\frac{1}{2}$  or less tarsus IV.  
 (39). 32. Tibia I scopulate anteriorly.  
 (36). 33. Anterior medians  $\frac{1}{2}$  a diameter or less apart; clypeus equal to or less than diameter of anterior lateral eye.  
 (35). 34. Length of carapace slightly exceeding tibia and metatarsus I. *exiguus*.  
 (34). 35. Length of carapace slightly less than tibia and metatarsus I. *rostratus*.  
 (33). 36. Anterior medians over  $\frac{1}{2}$  a diameter apart, clypeus exceeding diameter of lateral eye.  
 (38). 37. Anterior width of carapace equal to  $\frac{1}{2}$  greatest width . . . *appendiculatus*.  
 (37). 38. Anterior width of carapace distinctly less than  $\frac{1}{2}$  greatest width . . . *aurariarium*.  
 (32). 39. Tibia I not, or very sparsely, scopulate anteriorly.  
 (41). 40. Anterior tongue of vulva small . . . . . *ahenus*.

- (40). 41. Anterior tongue of vulva long . . . . . *communis*.  
 (31). 42. Length of carapace equal to metatarsus and over  $\frac{1}{2}$  tarsus IV.  
 (44). 43. Posterior row of eyes moderately procurved . . . . . *matroosbergensis*.  
 (43). 44. Posterior row of eyes well procurved.  
 (46). 45. Post medians  $1\frac{1}{2}$  long diameter from laterals. Carapace longer than  
 metatarsus and tarsus IV . . . . . *coruscus kibonotensis*.  
 (45). 46. Post medians less than  $1\frac{1}{2}$  long diameter from laterals. Carapace not  
 longer than metatarsus and tarsus IV . . . . . *rubeus*.  
 (30). 47. Length of carapace equal to tibia, metatarsus and more than  $\frac{1}{4}$  tarsus I.  
 49). 48. Posterior row of eyes well procurved. Tibia I with basal spine  
*bicavus*.  
 (48). 49. Posterior row of eyes moderately procurved. Tibia I without basal  
 spine . . . . . *cruscus*.

## Key to ♂♂.

- (9). 1. Tibial process equal to or shorter than tibia.  
 (10). 2. Length of carapace equal to tibia, metatarsus and  $\frac{1}{4}$  or less tarsus I.  
 (5). 3. Length of carapace equal to metatarsus and  $\frac{1}{2}$  or less tarsus IV.  
 4. Posterior row of eyes well procurved, post medians less than  $1\frac{1}{2}$  long  
 diameters from laterals . . . . . *pallidus*.  
 (3). 5. Length of carapace equal to metatarsus and over  $\frac{1}{2}$  tarsus IV.  
 (7). 6. Posterior row of eyes well procurved . . . . . *bicavus*.  
 (6). 7. Posterior row of eyes moderately procurved.  
 (9). 8. Posterior medians  $1\frac{1}{2}$  or more long diameters from laterals; inferior  
 border of chelicera muticous . . . . . *spoliator*.  
 (8). 9. Posterior medians less than  $1\frac{1}{2}$  long diameters from laterals inferior border  
 of chelicera with 1 tooth . . . . . *vickermanni*.  
 (2). 10. Length of carapace equal to tibia, metatarsus and more than  $\frac{1}{4}$  tarsus I.  
 (14). 11. Length of carapace equal to metatarsus and  $\frac{1}{2}$  or less tarsus IV.  
 (13). 12. Posterior row of eyes well procurved. Tibia I scopulate anteriorly on  
 both sides . . . . . *exiguus*.  
 (12). 13. Posterior row of eyes moderately procurved. Tibia I with small scopula  
 on inner side only . . . . . *lunulifer*.  
 (11). 14. Length of carapace equal to metatarsus and over  $\frac{1}{2}$  tarsus IV.  
 (24). 15. Posterior row of eyes well procurved.  
 (21). 16. Posterior medians less than  $1\frac{1}{2}$  long diameters from laterals.  
 (20). 17. Length of carapace exceeding metatarsus IV.  
 (19). 18. Palpal organ with long free slender style curved from centre to base and  
 up outer under surface to apex . . . . . *spiralifer*.  
 (18). 19. Palpal organ without long free style . . . . . *rostratus*.  
 (17). 20. Length of carapace not exceeding metatarsus IV . . . . . *communis*.  
 (16). 21. Posterior medians  $1\frac{1}{2}$  or more long diameters from laterals.  
 (23). 22. Tibia I without basal spine, inferior border of chelicera with 1 tooth  
*aurariarium*.  
 (22). 23. Tibia I with basal spine, inferior border of chelicera muticous  
*lightfooti*.  
 (15). 24. Posterior row of eyes moderately procurved.  
 (26). 25. Inferior border of chelicera with one tooth . . . . . *patricki*.



- (25). 26. Inferior border of chelicera muticous.  
 (28). 27. Posterior medians less than  $1\frac{1}{2}$  long diameters from laterals *aridus*.  
 (27). 28. Posterior medians more than  $1\frac{1}{2}$  long diameters from laterals *perversus*.  
 (1). 29. Tibial process longer than tibia.  
 (33). 30. Length of carapace equal to tibia, metatarsus and  $\frac{1}{4}$  or less tarsus I.  
 (32). 31. Length of carapace equal to metatarsus and  $\frac{1}{2}$  or less tarsus IV  
*crusculus*.  
 (31). 32. Length of carapace equal to metatarsus and more than  $\frac{1}{2}$  tarsus IV  
*capensis*.  
 (30). 33. Length of carapace equal to tibia, metatarsus and more than  $\frac{1}{4}$  tarsus I  
 and to metatarsus and  $\frac{1}{2}$  or less tarsus IV.  
 (39). 34. Posterior row well procurved.  
 (36). 35. Tibia I well scopulate anteriorly, but without basal spine  
*appendiculatus*.  
 (35). 36. Tibia I not or very sparsely scopulate anteriorly, and with basal spine.  
 (38). 37. Anterior medians over  $\frac{1}{2}$  diameter apart; clypeus subequal to diameter  
 of lateral anterior eye . . . . . *druryi*.  
 (37). 38. Anterior medians  $\frac{1}{2}$  diameter apart; clypeus greater than diameter of  
 anterior lateral eye . . . . . *flavescens*.  
 (34). 39. Posterior row moderately procurved.  
 (41). 40. Posterior medians  $1\frac{1}{2}$  or more long diameters from laterals; clypeus  
 greater than diameter of anterior lateral eye . . . *crustosus*.  
 (40). 41. Posterior medians less than  $\frac{1}{2}$  a long diameter from laterals; clypeus  
 subequal to diameter of anterior lateral eye . . . *occiduus*.

XEROPHAEUS AHENUS, Purc.

1908. X. *ahenus*. Purcell in Schultze Zool. Forschungsreise in Sudafrika, p. 237, pl. xi, fig. 19.

*Specimens* :—

- 1 ♀ (13,235). Blaukranze, 23 mls. S.W. of Calvinia. (G. French, January 1903.)  
 1 ♀ (11,703). Stompneus, St. Helena Bay, Malmesbury Div. (J. C. Goold, May–June 1902.)  
 1 ♀ (11,721). Steenberg Cove, St. Helena Bay. (J. C. Goold, May 1902.)

*Carapace*.—Anterior width barely  $\frac{1}{2}$  greatest width. Length equal to tibia and metatarsus I and to metatarsus and  $\frac{1}{3}$  or more tarsus IV.

*Eyes*.—Anterior row moderately procurved, medians  $\frac{1}{2}$  a diameter apart. Posterior row well procurved, medians less than a short diameter apart posteriorly, and less than a long diameter from the smaller laterals.

*Clypeus*.—Slightly greater than the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior with 1.

*Sternum*.—Length equal to  $1\frac{1}{2}$  times the greatest width.

*Legs*.—Tibia I with a few scopular hairs anteriorly on the inner side ; apical and 1 median spines.

*Vulva*.—As in fig. 19, *loc. cit.* The narrow, flat median keel mentioned in Purcell's description is shown, especially in specimen 13,235, to consist apparently of 2 hollow ducts leading from the entrance of each vesicula seminalis, marked on either side by the dark spot at the entrance, and curving thence inwards and upwards, and finally tapering away a little below the anterior tongue.

*Measurements*.—Length of carapace, 4.3 mm. Anterior width, 1.8 mm.

#### XEROPHAEUS ANTHROPOIDES, Hewitt.

1916. *X. anthropoides*. Hewitt in Ann. Transv. Museum, vol. v, 3, p. 211, fig. 10.

*Specimens*.—1 ♀ (type No. 200, Transvaal Museum). Roodeplaat, Pretoria Dist. (G. van Dam, May 1915.)

*Carapace*.—Anterior width slightly exceeding greatest width. Length equal to metatarsus, tibia, and about  $\frac{3}{4}$  tarsus I, and equal to metatarsus and tarsus IV.

*Eyes*.—Anterior row moderately procurved, medians  $\frac{1}{2}$ – $\frac{3}{4}$  diameter apart. Posterior row moderately procurved, medians less than a short diameter apart posteriorly, and  $1\frac{1}{2}$  long diameters from the laterals.

*Clypeus*.—Subequal to diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior with 0.

*Sternum*.—Length equal to  $1\frac{1}{3}$  times greatest breadth.

*Legs*.—Tibia I with slight scopula over  $\frac{1}{3}$  inner apical side ; 1 apical, 1 median, and 0–1 basal spine on under surface.

*Vulva*.—See fig. 10, *loc. cit.* The lateral borders of the light median area are black, with clearly defined outer as well as inner edges, and anteriorly curving partially round the lateral circular pits. The region immediately anterior to the pits, and around the obsolescent median pocket is diffusely darkened. Posteriorly, on either side of the longitudinal black markings, is an almost circular reddish brown plaque, which, though mentioned in the description, is not shown in the figure.

*Measurements*.—Length of carapace, 4 mm. Anterior width, 2 mm.

*Record of other Localities* :—

1 ♀ (B 3330). Kimberley.

1 ♀ (B 3888). Insiza, Rhodesia. (G. French.)

1 ♀ (5223B). Vryburg. (J. E. Brown.)

## XEROPHAEUS APPENDICULATUS, Purc. (Fig. 86.)

1907. *X. appendiculatus*. Purc. in A.M.N.H. (7), vol. xx, p. 326, pl. xv, figs. 41-42.

*Specimens*.—2♂♂ and 1♀ (9480 types). Hanover. (S. C. Schreiner, September-October, 1901.)

*Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length equal to tibia and metatarsus I, and to metatarsus and at least  $\frac{1}{3}$  tarsus IV.

*Eyes*.—Anterior row moderately procurved, medians  $\frac{3}{4}$  diameter apart. Posterior row strongly procurved, medians less than  $\frac{1}{2}$  short diameter apart posteriorly, and nearly 2 long diameters from the laterals.

*Clypeus*.—Equal to  $1\frac{1}{2}$  times the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior with 1.

*Sternum*.—Length equal to  $1\frac{1}{3}$  times greatest breadth.

*Legs*.—Tibia I with strong lateral scopulae over distal  $\frac{1}{2}$  of either side, and 1 apical and 1 median spines on under surface. Vulva as in fig. 42, *loc. cit.*; see also fig. 86.

*Measurements*.—Length of carapace, ♀ 5 mm.; ♂ 4.9 mm. Anterior width, ♀ 2.5 mm.; ♂ 2.1 mm.

♂ *Carapace*.—Length equal to tibia and about  $\frac{1}{2}$  metatarsus I, and to metatarsus and  $\frac{1}{3}$  tarsus IV.

*Eyes*.—As in ♀; posterior medians nearly touching posteriorly, and about  $1\frac{1}{2}$  long diameters from the laterals.

*Clypeus*.—Equal to  $\frac{1}{2}$  diameter of anterior lateral eye.

*Chelicera* and *Sternum*.—As in ♀.

*Legs*.—As in ♀, scopulation not so strong. Tarsus IV with no lighter distal portion.

*Pedipalps*.—Palpal organ as in fig. 41, *loc. cit.* Tibial process much longer than tibia, and extending over  $\frac{2}{3}$  length of tarsus; narrow, but tapering anteriorly, and swelling at base, straight, slightly hooked at extremity.

*Specimens from other Localities* :—

♂ and ♀ (9934). Zululand. (W. Anderson, 1901.)

1 ♀ (12,552). Umtali, Bavians Kop. (L. Patrick, June 1902.)

1 ♀ (B 1575). De Aar. (Dr. W. F. Purcell, September 1913.)

1 ♀ (Grahamstown Museum.) Bloemfontein. (T. F. Dryer, December 1916.)



## XEROPHAEUS ARIDUS, Purc. (Fig. 87.)

1907. *X. aridus*. Purcell in A.M.N.H. (7), vol. xx, p. 319, pl. xiv, fig. 26.

1908. *X. aridus*. Purcell in Schultze Zool. Forschungsreise in Sudafrika, Bdl., p. 236.

1915. *X. poweri*. Hewitt in Rec. Albany Mus., vol. iii, No. 2, p. 94, fig. 4.

*Specimens*.—1 ♀ (13,281 type). Tsabis, N.E. Concordia (Krapohl, 1902.) Also numerous other specimens mentioned below.

*Carapace*.—Anterior width slightly less than greatest width; length slightly exceeding tibia and metatarsus I, and equal to metatarsus and  $\frac{1}{2}$  tarsus IV.

*Eyes*.—Anterior row only slightly procurved, medians  $\frac{3}{4}$  diameter apart. Posterior row very slightly procurved, medians large, subangular, close together posteriorly, and at least a long diameter from the laterals.

*Clypeus*.—Equal to  $1\frac{1}{2}$  times the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth; inferior muticous.

*Sternum*.—Length equal to nearly  $1\frac{1}{2}$  times the greatest breadth.

*Legs*.—Tibia I with a slight anterior scopula on both sides, and with 1–2 apical spines (very occasionally a median and a basal spine may be present also).

*Vulva*.—As in fig. 26, pl. xiv, A.M.N.H. (7), vol. xx.

*Measurements*.—Length of carapace, ♀ 5.5 mm.; ♂ 4.5 mm. Anterior width, ♀ 2.3 mm.; ♂ 1.8 mm.

♂ *Carapace*.—Anterior width slightly less than  $\frac{1}{2}$  greatest width. Length equal to tibia and  $\frac{4}{5}$  metatarsus I, and to metatarsus and  $\frac{1}{4}$  tarsus IV.

*Eyes and Chelicera*.—As in ♀.

*Clypeus*.—Equal to diameter of anterior lateral eye.

*Sternum*.—Length equal to  $1\frac{1}{3}$  times greatest breadth.

*Legs*.—Tibia I with a few anterior scopular hairs, bearing 2 apical, 2 median, and occasionally 2 basal spines.

*Pedipalps*.—Palpal organ as in fig. 87. Also fig. 4, Rec. Albany Museum, p. 94.

The ♂ is described from the specimens ♂, 2 ♀♀, and jv. (B 2113), from Haris, S.W. Afr. Prot. (R. W. Tucker, January 1916), Percy Sladen Memorial Expedition.

*Other specimens were taken from—*

- S.W. Windhuk, S.W. Afr. ; 5♀♀ (B 2158). (R. W. Tucker, January 1916.)
- Nauchas, S.W. Afr. ; 1 ♀ (B 2167). (R. W. Tucker, January 1916.)
- Nauchas-Areb, S.W. Afr. ; 2♀♀ (B 2116). (R. W. Tucker, January 1916.)
- Bull's Poorte, S.W. Afr. ; 1 ♀ (B 2048). (R. W. Tucker, January 1916.)
- Gurumanas, S.W. Afr. ; 2♀♀ (B 2154). (R. W. Tucker, January 1916.)
- Grootfontein, S.W. Afr. ; ♂ and 3♀♀ (B 4623). (J. Drury and R. M. Lightfoot, December 1918.)
- Kimberley, C. Province ; 3 ♂♂ and 3♀♀ and jv. (B 4203). (Bro. J. H. Power, December 1918.)
- Ganachaams, near Gaub, S.W. Afr. Prot. ; 1 ♂ (B 4816) and 3♀♀ (B 4813 and 4814). (R. W. Tucker, January 1922.)
- Grootfontein, S.W. Afr. Prot. ; 1 ♀ (B 5051). (R. W. Tucker, January 1920.)
- Windhuk, S.W. Afr. Prot. ; 5♀♀ (B 4835). (R. W. Tucker, February 1920.)

The above♀♀ specimens all belong to *X. aridis*; the ♂♂ of the specimens from Haris, Grootfontein, and Kimberley do not, however, agree at all with the ♂ described as *X. aridus* by Purcell in L. Schultze's Zool. S.W. Afr., Bd. xiii, p. 236, but are as in fig. 87 and description as above. The♀♀ recorded by Purcell from Kubub (*loc. cit.*) are undoubtedly *X. aridus*; the ♂ from Cape Cross, which has been examined, is separated, however, as a new species. *X. perversus*, since it does not agree with the ♂♂ taken in conjunction with the above-mentioned specimens from Haris, etc., and which it seems valid to regard as the true ♂♂ of *aridus*.

In the series of♀♀ represented above are certain forms in which the vulva appears different, in that the median hooded pocket is more anterior in position, being in fact beyond the lateral projections, which are shorter and have the dark lateral marks figured by Purcell as their centres or cores; the lateral lines immediately anterior to the lower broad markings are darker and more pronounced in all specimens. Although previously separated in MS. as new, these forms are now included as variations of *aridus*.

## XEROPHAEUS AURARIARUM, Purc.

1907. *X. aurariarum*. Purcell in A.M.N.H. (7), vol. xx, p. 324, pl. xiv, figs. 35 and 36.

*Specimens*.—3 ♀♀ and 2 ♂♂ (12,982 types). Witwatersrand, Transv. (Miss Pegler, 1903.)

*Carapace*.—Anterior width distinctly less than  $\frac{1}{2}$  the greatest width. Length slightly exceeding tibia and metatarsus I, and metatarsus and  $\frac{1}{2}$  tarsus IV.

*Eyes*.—Anterior row well procurved, medians a diameter apart. Posterior row very strongly procurved, medians larger than the laterals, subangular, nearly touching posteriorly, and about  $1\frac{1}{2}$  long diameters from the laterals. Median ocular area much longer than broad, and slightly narrower posteriorly.

*Clypeus*.—About  $1\frac{1}{2}$  times diameter of anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior border with 1.

*Sternum*.—Length  $1\frac{1}{3}$  times greatest breadth.

*Legs*.—Tibia I with small anterior lateral scopula and 1 apical spine.

*Vulva*.—As in fig. 36, *loc. cit.*

*Measurements*.—Length of carapace, ♀ 5 mm. ; ♂ 3.5 mm. Anterior width, ♀ 2 mm. ; ♂ 1.4 mm.

♂ *Carapace*.—Anterior width less than  $\frac{1}{2}$  greatest width. Length subequal to tibia and metatarsus I, and equal to metatarsus and nearly  $\frac{1}{4}$  tarsus I.

*Eyes*.—Anterior row well procurved, medians less than a diameter apart ; posterior row as in ♀.

*Clypeus*.—Equal to diameter of anterior lateral eye.

*Chelicera*.—As in ♀.

*Sternum*.—Length equal to  $1\frac{1}{2}$  times greatest width.

*Legs*.—Tibia I with a few scopular hairs anteriorly on inner side, and with 2 apical spines. Tarsus IV lighter over entire distal  $\frac{1}{2}$ .

*Pedipalps*.—Palpal organ as in fig. 35, *loc. cit.* Tibial process strong, shorter than tibia, and with apex pointed and slightly incurved.

*Specimens from new Localities* :—

Naauwpoort, Hanover ; 1 ♂ and jv. ♀♀ (B. 1596). (Dr. W. F. Purcell, October 1905.)

Matjesfontein ; 1 ♂ (B 1649). (Dr. W. F. Purcell, November 1905.)

Burghersdorp, Albert Div. ; ♂ and ♀ (B 222), September 1909, and 2 ♂♂ and 4 ♀♀ (B 73), October 1907. (Dr. Kannemeyer.)



Florida, Transv. High Veld ; 5 ♀♀ (B 4484). (R. W. Tucker, December 1913.)

Zoekmakaar, N. Transv., Middle Veld ; 3 ♀♀ (B 4442). (R. W. Tucker, November 1918.)

Vryburg ; ♂ (B 5222). (J. C. Brown, May 1920.)

Aliwal North ; 1 ♀ (Grahamstown Museum). (J. Hepburn.)

XEROPHAEUS BICAVUS, n. sp. (Fig. 88, A and B.)

*Specimens*.—2 ♂♂ and 1 ♀ (B 4378 types). Acornhoek (vicinity), E. Transvaal, Low Veld. (R. W. Tucker, November 1918.)

♀ *Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length equal to tibia and  $\frac{3}{4}$  metatarsus I, and to metatarsus and  $\frac{1}{2}$  tarsus IV.

*Eyes*.—Anterior row fairly well procurved, medians less than  $\frac{1}{2}$  diameter apart. Posterior row strongly procurved, medians a short diameter or less apart posteriorly, and a long diameter from the laterals.

*Clypeus*.—Less than the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior with 1.

*Sternum*.—Length equal to  $1\frac{1}{3}$  times greatest breadth.

*Legs*.—Metatarsus I with only 1 basal spine ; tibia with no anterior scopula, and with 1 apical, 1 median, and 1 basal spine on inner side of under surface.

*Vulva*.—As in fig. 88A.

*Measurements*.—Length of carapace, ♀ 4 mm. ; ♂ 3.5 mm. Anterior width, ♀ 1.7 mm. ; ♂ 1.3 mm.

♂ *Carapace*.—Anterior width slightly less than  $\frac{1}{2}$  greatest width. Length equal to tibia and  $\frac{1}{5}$  metatarsus I, and to metatarsus and  $\frac{1}{4}$  tarsus I (legs I and IV on other side much shorter and weaker).

*Eyes, Clypeus, Chelicera, and Sternum*.—As in ♀.

*Legs*.—Metatarsus and tibia I as in ♀. Tarsus IV with no obvious lighter apical portion.

*Pedipalps*.—As in fig. 88B. Tibial process short and strong,  $\frac{1}{4}$  length of tarsus and almost as long as tibia ; straight, and tapering anteriorly.

XEROPHAEUS CAPENSIS, Purc. (Fig. 89.)

1907. *X. capensis*.—Purcell in A.M.N.H. (7), vol. xx, p. 314, pl. xiii, figs. 20 and 20A.

1907. *X. delphinurus*. Purcell, p. 316, pl. xiii, fig. 21, *loc. cit.*

1907. *X. interrogator*. Purcell, *loc. cit.*, p. 316, pl. xiv, fig. 22.

*Specimens*.—1 ♂ (13,852 type), and 4 ♀♀ and 4 ♂♂ (9068). Devil's Peak, C. Town. (Dr. W. F. Purcell, August 1901.)

♀ *Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length slightly exceeding tibia and metatarsus I and equal to metatarsus and tarsus IV.

*Eyes*.—Anterior row moderately procurved, medians  $\frac{1}{2}$  a diameter apart. Posterior row well procurved, medians less than a short diameter apart posteriorly, and a long diameter from the laterals.

*Clypeus*.—Equal to the diameter of an anterior lateral eye.

*Sternum*.—Length equal to  $1\frac{1}{3}$  times the greatest breadth.

*Chelicera*.—Superior border with 3 teeth, inferior border with 1.

*Legs*.—Tibia I with slight lateral anterior scopulæ, and with 1 apical and 1 median spine on under surface.

*Vulva*.—As in fig. 20, *loc. cit.*

*Measurements*.—Length of carapace, ♀ 3.8 mm.; ♂ 3.7 mm. Breadth, ♀ 1.8 mm.; ♂ 1.6 mm.

♂ *Carapace*.—Anterior width slightly less than  $\frac{1}{2}$  greatest width. Length equal to, or slightly less than tibia and metatarsus I, and equal to metatarsus and  $\frac{1}{2}$  or more tarsus IV.

*Clypeus*, *Sternum*, and *Chelicera*.—As in ♀.

*Eyes*.—As in ♀, median anteriors farther apart.

*Legs*.—Tibia I with slight scopula on anterior inner side, and with 1 apical and 1 median spine on under surface; tarsus IV with distal  $\frac{1}{3}$  very light.

*Pedipalps*.—As in figs. 20 and 20A, *loc. cit.*; also as in fig. 89, full ventral view. Tibial process longer than tibia, broad at base, tapering and curved over dorsal surface of tarsus, but appressed thereto, except at apex, which ends in a black curved claw-like process with lobate base.

*X. delphinurus* and *X. interrogator* agree with *capensis* in every detail of palpal organ, proportions, spination, etc.; the slight differences noticed are no more than usually found in any species of which a fair number of specimens can be examined; the differences depicted in figs. 22, 21, 20A, *loc. cit.*, seem to be exceptional, and due as much to difference in the angle of observation as to actual structural difference. The ♀♀ mentioned on p. 317, *loc. cit.*, are simply variations of *capensis*, in which the anterior pocket is more forward in position and the central groove is therefore prolonged to meet it. (See note on *aridus*.)

*Record of New Localities* :—

♀ and 2 jv. (B 2504). Gt. Winterhoek Mts. (4000–4500 ft.).  
(R. W. Tucker, January 1917.)

1 ♀ (B 5570). River Zonde Ende. C. Prov. (R. Tucker,  
December 1920.)

XEROPHAEUS COMMUNIS, Purc.

1907.—*X. communis*. Purcell in A.M.N.H. (7), vol. xx, p. 322, pl. xiv, figs. 33, 33A, and 34.

*Specimens*.—3 ♀♀, 1 ♂ (12,939 types). Willowmore district. (E. H. Schwartz, 1903.)

Also numerous specimens from localities all over S. Africa.

*Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length equal to tibia and  $\frac{4}{5}$  or more metatarsus I, and equal to metatarsus and  $\frac{1}{4}$  or less tarsus IV.

*Eyes*.—Anterior row moderately procurved, medians  $\frac{1}{2}$  diameter apart. Posterior row strongly procurved, medians close together posteriorly, and just over a long diameter from the laterals.

*Clypeus*.—Subequal to diameter of anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior border with 1.

*Sternum*.—Length equal to  $1\frac{1}{3}$  times greatest breadth.

*Legs*.—Tibia I scopulate laterally over anterior  $\frac{1}{3}$ , and bearing 1 apical and 1 media spine on under surface.

*Vulva*.—As in fig. 34, *loc. cit.*

♂ *Measurements*.—Length of carapace, ♂ 4.1 mm.; ♂ 4.5 mm. Anterior width, ♀ 2 mm.; ♂ 1.5 mm.

*Eyes*.—Anterior row moderately procurved, medians  $\frac{1}{4}$  diameter apart. Posterior row well procurved, medians about a short diameter apart, and just over a long diameter from the laterals.

*Clypeus* and *Chelicera*.—As in ♀.

*Sternum*.—Length equal to  $1\frac{1}{4}$  times greatest width.

*Legs*.—Tibia I with a very few scopular hairs anteriorly, and with 2 apical and I median spine. Tarsus IV with a light and a dark band in distal  $\frac{1}{2}$ .

*Pedipalps*.—Palpal organ as figs. 33 and 33A, *loc. cit.* Tibial process long, slightly shorter than tibia, pointed apically, and slightly incurved.

*Carapace*.—Anterior width less than  $\frac{1}{2}$  greatest width. Length equal to tibia and  $\frac{1}{2}$  metatarsus I, and equal to metatarsus IV.

XEROPHAEUS CORUSCUS KIBONOTENSIS, Tullgren.

1910. *X. coruscus kibonotensis*. Tullgren in Sjostedts Kilimandjaro Meru Expedition, June 1916, p. 108, pl. i, fig. 20.

*Specimens*.—2 ♀♀ (12,538). Queenskop, Umtali. (L. Patrick, January 1902.)

*Carapace*.—Anterior width slightly less than  $\frac{1}{2}$  greatest width.



Length equal to tibia, metatarsus and  $\frac{1}{4}$  tarsus I and tibia and  $\frac{2}{3}$  metatarsus IV (longer than metatarsus and tarsus IV).

*Eyes.*—Anterior row moderately procurved, medians  $\frac{1}{2}$  a diameter apart, and much larger than the laterals. Posterior row well procurved, medians subangular, less than a short diameter apart, and  $1\frac{1}{2}$  long diameters from the laterals.

*Clypeus.*—Slightly less than the diameter of an anterior lateral eye.

*Chelicera.*—Superior border with 3 teeth, inferior with 1.

*Sternum.*—Length over  $1\frac{1}{2}$  times the greatest breadth.

*Legs.*—Tibia I with slight lateral scopula on anterior inner surface, and with 1 apical, 1 median and 1 basal spine.

*Vulva.*—As in fig. 20, *loc. cit.*

*Measurements.*—Anterior width of carapace, 2 mm. Length of carapace, 5 mm.

#### XEROPHAEUS CRUSCULUS, n. sp. (Figs. 90, A and B.)

*Specimens.*—♂, 2 ♀♀, and jv. (B 2682 types). Gt. Winterhoek Mts. (4400–5500 ft.). (R. W. Tucker, 29th January 1916); and others from the same locality, and at altitudes from 4000 to 6000 ft.

♂ *Carapace.*—Width across the posterior row of eyes  $\frac{1}{2}$  of the greatest width.

*Eyes.*—Anterior row lightly recurved (seen from above); medians round, less than a diameter apart, larger than the laterals and nearly touching them. Posterior row slightly wider than the anterior, and procurved; medians subangular and nearer to each other than to the laterals. Clypeus as deep as the long diameter of an anterior lateral eye.

*Chelicera.*—1 tooth on the posterior (or inferior) border, and 2 large and 1 smaller one on the anterior border.

*Legs.*—All the tarsi and the 2 anterior pairs of metatarsi scopulate to the base; metatarsi III and IV slightly scopulate anteriorly; metatarsi I and II with a pair of stout basal spines on the under surface.

*Pedipalps.*—Femur armed with 1 median and 3 stout apical spines on the upper surface; patella with a few stout bristles only; tibia armed with a fine median spine on the upper surface; also bearing a small apical projection on the inner under edge, and a long stout process on the outer apical edge as in fig. 90B; tarsus and palpal organ as in fig. 90B.

♀ *Carapace* and *Eyes* as in the ♂.

*Chelicera*.—Toothed as in the ♂.

*Legs*.—Anterior scopula on the tibia of 1st leg very weak; also with 1 apical and 1 median spine on the under surface.

*Vulva*.—As in fig. 90A; often partially obscured by overhanging hairs; some specimens also lacking a clear distinction of the two lateral plates, or of the dark portions seen through the central membrane. Anterior tongue-like appendage less visible in some specimens than in others.

*Measurements*.—Carapace, ♂ and ♀ 4 mm. Total length, ♂ 8.5 mm.; ♀ 9.5 mm.

*Other Localities*.—

1 ♀ (B 3457). Matroosberg Mts. (5000–6000 ft.). (R. W. Tucker, November 1917.)

2 ♂♂ (B 3506). Matroosberg Mts. (6000–7500 ft.). (R. W. Tucker, December 1917.)

Also 1 ♀ (B 3080) from the Matroosberg Mts. at an altitude of 5000 ft. (R. W. Tucker, November 1917). This specimen has the integument of the vulva darker, and strongly corrugated down the soft central portion. Anterior tongue dark and very conspicuous, and 1 ♂ (B 3344) from Steenbraas. (R. W. T., October 1917.)

Subsequently specimens have been identified from the following localities:—

Sir Lowry's Pass, 1 ♀ (3483); Hermanus Petrusfontein, 3 ♀♀ (11,638); Robertson, 1 ♀ (3351); Rabiesberg, Worcester Div., 1 ♀ (3346) and (3340); Caledon, 2 ♀♀ (B 362) and (B 375).

One of the ♀♀ (No. 11,638) presents a slightly varietal form of vulva; the dark portions shown in fig. A, interior to the two longitudinal dark lines, are as dark as, and practically continuous with the lateral outer plates; the latter extend higher than the tongue, which is small, whilst the longitudinal dark lines continue up almost straight and finally bend inwards about the level of the tongue; the outer two specimens are also aberrant, though to a less degree, but all appear referable to the above species.

The ♀ (3351) from Robertson varies in the direction of the 3 ♀♀ (11,638) from Hermanus Petrusfontein, but is undoubtedly referable to *crusculus*.

The ♀ (3346) from Rabiesberg is doubtfully included as *crusculus*; the general plan of the vulva is as in the fig., but less clearly defined; it could hardly, however, justifiably be separated. No. 3340 from the same locality is undoubtedly *X. crusculus*.

## XEROPHAEUS CRUSTOSUS, Purc.

1907. *X. crustosus*. Purcell in A.M.N.H. (7), vol. xx, p. 325, pl. xv, fig. 40.

*Specimens* :—

1 ♂ (7857 type). E. London. (J. Wood, 1899.)

1 ♂ (B 2008). E. London. (R. M. Lightfoot, October 1915.)

*Carapace*.—Anterior width less than  $\frac{1}{2}$  greatest width. Length equal to tibia and  $\frac{3}{4}$  metatarsus I, and to metatarsus and  $\frac{1}{3}$  tarsus IV.

*Eyes*.—Anterior row moderately procurved, medians  $\frac{1}{2}$  diameter apart. Posterior row slightly procurved, medians not quite a short diameter apart posteriorly, and  $1\frac{1}{2}$  long diameters from the laterals.

*Clypeus*.—Exceeding the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior border with 1 tooth.

*Sternum*.—Length equal to  $1\frac{1}{3}$  times greatest breadth.

*Legs*.—Tibia I not scopulate, bearing 1 apical and 1 median spine. Tarsus IV with the distal  $\frac{1}{2}$  very light.

*Pedipalps*.—Palpal organ as in fig. 40, *loc. cit.* Tibial process long, reaching to distal end of palpal organ, distal portion slightly curving upwards, apex slightly incurved.

*Measurements*.—Anterior width of carapace, 2 mm.; length of carapace, 5.4 mm.

## XEROPHAEUS DRURYI, n. sp. (Fig. 91.)

*Specimens*.—1 ♂ (No. 14,542) type. Mashonaland. (J. Drury, 1904–5.)

*Colour*.—Carapace and legs orange-brown. Abdomen dull testaceous brown, sparsely clothed with hairs, and with a small brown scutum. Sternum orange-brown and dark edged.

*Eyes*.—Anterior row from in front straight to slightly procurved; medians large, over  $\frac{1}{2}$  a diameter apart, and much nearer to anterior laterals which are less than  $\frac{1}{2}$  their size. Posterior row from above well procurved; medians subangular, about  $\frac{1}{2}$  a diameter apart and more than a long diameter from the laterals which are round, equal to anterior laterals and  $\frac{1}{2}$  diameter from them.

*Chelicera*.—Superior border with 3 strong teeth; inferior border with 1 small tooth.

*Legs*.—Tarsus I scopulate over entire length; metatarsus scopulate entirely over distal third and laterally almost to base; 2 basal spines on under surface. Second leg similar. Tarsus III densely scopulate;



IV with more bristle-like and fewer scopular hairs. Metatarsi III and IV strongly spined and bearing numerous bristles.

*Pedipalps*.—Femur with 1 median and 3 stout apical spines dorsally. Patella with 2 lateral bristles and 1 small apical spine dorsally. Tibia with apical spur as in fig. 91. Palpal organ as in fig. 91.

*Measurements*.—Length of carapace, 4 mm. Total length, 8.8 mm.

#### XEROPHAEUS EXIGUUS, Purcell.

1907. *X. exiguus*. Purc. in A.M.N.H. (7), vol. xx, p. 324, pl. xiv, figs. 37 and 37A.

*Specimens* :—

1 ♂ (13,579 type). Laingsburg. (R. M. Lightfoot, August 1903.)

8 ♀♀ and 3 ♂♂ (150,074). Caledon. (Dr W. F. Purcell, July 1910.)

♀ *Carapace*.—Anterior width slightly less than  $\frac{1}{2}$  greatest width; length equal to or slightly exceeding tibia and metatarsus I, and equal to metatarsus and  $\frac{1}{3}$  tarsus IV.

*Eyes*.—Anterior row moderately procurved, medians  $\frac{1}{2}$  diameter apart. Posterior row well procurved, medians  $\frac{1}{2}$  a short diameter apart posteriorly, and a long diameter from laterals.

*Clypeus*.—Less than diameter of anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior border with 1.

*Sternum*.—Length equal to  $1\frac{1}{3}$  times greatest breadth.

*Legs*.—Tibia I scopulate apically down inner and outer side of under surface, and with 1 apical and 1 median spine.

*Vulva*.—Strongly resembling *X. rostratus*, the slight differences being hardly describable.

*Measurements*.—Length of carapace, ♀ 3.8 mm.; ♂ 3 mm. Anterior width, ♀ 1.6 mm.; ♂ 1.2 mm.

♂ *Carapace*.—Anterior width slightly less than  $\frac{1}{2}$  greatest width; length equal to tibia and  $\frac{1}{2}$  or more metatarsus I, and equal to metatarsus IV.

*Eyes*.—Anterior row slightly procurved, medians less than  $\frac{1}{2}$  a diameter apart, and touching the laterals. Posterior row well procurved, medians almost touching posteriorly, and less than a long diameter from laterals.

*Clypeus, Chelicera, and Sternum*.—As in ♀.

*Legs*.—Tibia I with no lateral scopula, and with 2 apical and 1 median spine. Tarsus IV lighter over distal  $\frac{1}{2}$ — $\frac{1}{3}$ .

*Pedipalps*.—As in fig. 37 and 37A, *loc. cit.* Tibial process as long as tibia, slightly upturned at apex.

*Record of New Localities*.—2 ♂♂ (B 1993). Grahamstown. (Dr W. F. Purcell, October 1905.)

XEROPHAEUS FLAMMEUS, n. sp. (Fig. 92.)

*Specimens*.—1 ♀ (No. 6087 type). Maitland Flats, C. Penins. (Mrs W. F. Purcell, September 1899.)

*Colour*.—Carapace medium brown with slight radiate infuscations, and darker around the borders; legs slightly lighter proximally, but darker from tibiae onwards; tips of posterior tarsi paler. Abdomen testaceous where rubbed; otherwise clothed with appressed tawny hairs.

*Carapace*.—Equal to tibia, metatarsus and  $\frac{1}{2}$  tarsus I; equal to metatarsus and tarsus IV.

*Eyes*.—Anterior medians less than  $\frac{1}{2}$  a diameter apart, and nearer to the laterals, which are only slightly smaller. Posterior medians large and nearly touching posteriorly; less than a long diameter from the laterals, which are subequal. Median ocular area longer than wide and very slightly narrower posteriorly.

*Chelicera*.—Superior border with 1 long and 2 small teeth; inferior border with 1 large tooth.

*Legs*.—Metatarsus I with 2 basal spines; tibia with 1 apical, 1 median, and 1 basal spine on the inner side; also an anterior scopular band on the inner side and scopular hairs anteriorly on the outer side; 2nd leg similar, but without the basal spine or the scopular hairs on the tibia. Tarsi III and IV scopulated, metatarsi heavily spined.

*Vulva*.—As in fig. 92.

*Measurements*.—Length of carapace, 4 mm. Total length, 8 mm.

XEROPHAEUS FLAVESCENS, Purc.

1907. *X. flavescens*. Purcell in A.M.N.H. (7), vol. xx, p. 317, pl. xiv, fig. 23.

*Specimens*.—1 ♂ (3582 type). Rondegat, S.E., Clanwilliam. (C. L. Leipoldt, October 1897.)

*Carapace*.—Anterior width about equal to greatest width. Length equal to tibia and  $\frac{1}{2}$  or more metatarsus I; 4th legs mutilated.

*Eyes*.—Anterior row moderately procurved, medians  $\frac{1}{2}$  diameter

apart, and touching laterals. Posterior row strongly procurved, medians nearly touching posteriorly, and about a long diameter from the laterals.

*Clypeus*.—Greater than the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior with 1.

*Sternum*.—Length equal to  $1\frac{1}{2}$  times greatest breadth.

*Legs*.—Tibia I with no lateral anterior scopula, and with 1 apical and 1 median spine.

*Pedipalp*.—Palpal organ as in fig. 23, *loc. cit.* Tibial process nearly as long as tarsus, straight, narrow, tapering slightly from base to apex, which is minutely hooked.

*Measurements*.—Length of carapace, 3.5 mm.; anterior width, 3.5 mm.

XEROPHAEUS HOTTENTOTTUS, Purc.

1908. *X. hottentottus*. Purcell in Schultze Zool. Forschungsreise in Sudafrika, Bd. 1, p. 236, pl. xi, fig. 17.

1915. *X. gordonicus*. Hewitt in Rec. Albany Museum, vol. iii (2), p. 97, fig. 5.

*Specimens* :—

1 ♀ (150,598 type). Steinkopf, L. Namaqualand. (L. Schultze, July–August, 1904.)

1 ♀ (Grahamstown Museum). N.W. Gordonia. (C. A. Anderson.)

2 ♀♀ (13,246). Laingsburg. (Dr W. F. Purcell, August 1903.)

*Carapace*.—Width across posterior row of eyes  $\frac{1}{2}$  greatest width. Length equal to tibia, metatarsus and  $\frac{1}{3}$  tarsus I, and to metatarsus and  $\frac{3}{4}$  tarsus IV.

*Eyes*.—Anterior row very slightly procurved; medians about  $\frac{3}{4}$  diameter apart, and much larger than the laterals. Posterior row moderately procurved, medians subangular, a short diameter apart posteriorly, and  $1\frac{1}{2}$  long diameters from the laterals.

*Clypeus*.—Equal to  $1\frac{1}{2}$  times diameter of anterior lateral.

*Chelicera*.—Superior border with 3 teeth, inferior border with 0.

*Sternum*.—Length equal to  $1\frac{1}{2}$  times greatest width.

*Legs*.—Metatarsus I with 2 spines on under surface; tibia I with anterior lateral scopula and with 1 apical, 1 median, and 1 basal spine on under surface.

*Vulva*.—As in fig. 17, *loc. cit.*

*Measurements*.—Anterior width of carapace, 2 mm.; length of carapace, 5 mm.



## XEROPHAEUS LIGHTFOOTI, Purc.

1907. *X. lightfooti*. Purcell in A.M.N.H. (7), vol. xx, p. 321, pl. xiv, figs. 31 and 32.

*Specimens*.—1 ♂ and 1 ♀ (3330 types). Triangle, C. P. (R. M. Lightfoot, May 1898.)

♀ *Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length equal to tibia, metatarsus and about  $\frac{1}{3}$  tarsus I, and to metatarsus and  $\frac{1}{3}$  tarsus IV.

*Eyes*.—Anterior row not strongly procurved, medians nearly a diameter apart. Posterior row strongly procurved, medians  $\frac{1}{2}$  a diameter apart posteriorly, and  $1\frac{1}{2}$  long diameters from the laterals.

*Clypeus*.—At least  $1\frac{1}{2}$  times the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 2–3 teeth, inferior border muticous.

*Sternum*.—Length equal to  $1\frac{1}{2}$  times greatest breadth.

*Legs*.—Tibia I with a small anterior scopula on inner side, and 3 spines down inner side of under surface. Tarsus IV with faint broad light band apparent in distal  $\frac{1}{2}$ .

*Vulva*.—As in fig. 32, *loc. cit.*

*Measurements*.—Length of carapace, ♀ 4 mm.; ♂ 4 mm. Anterior width, ♀ and ♂ 1.9 mm.

♂ *Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length slightly exceeding tibia and  $\frac{1}{2}$  metatarsus I, and equal to metatarsus IV.

*Eyes and Sternum*.—As in ♀.

*Clypeus*.—Slightly exceeding diameter of anterior lateral eye.

*Chelicera*.—Superior border with 2 teeth, inferior muticous.

*Legs*.—Tibia I without scopula, and with 3 spines down inner side of under surface. Tarsus IV with light distal band.

*Pedipalps*.—As in fig. 31, *loc. cit.* Tibial process very small, blunt and sub-cylindrical, curving slightly upwards and inwards at apex.

*Record of New Localities*.—1 ♀ (B 1670). Matjesfontein. (Dr W. F. Purcell, November 1905.)

## XEROPHAEUS LONGISPINA, Purc.

1908. *X. longispina*. Purcell in Schultze Zool. Forschungsreise in Sudafrika, Bd. I, p. 235, pl. xi, figs. 15 and 16.

*Specimens*.—12 ♀♀ (150,597 ex. typis). Kamaggas, L. Namaqualand. (L. Schultze, July–August 1904.)

♀ *Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length equal to tibia and  $\frac{2}{3}$  metatarsus I, and slightly exceeding metatarsus IV.

*Eyes*.—Anterior row moderately procurved, medians  $\frac{1}{4}$  diameter apart, and much larger than the laterals. Posterior row moderately procurved, medians subangular,  $\frac{1}{2}$  a short diameter apart posteriorly, and a long diameter from the laterals.

*Clypeus*.—Equal to diameter of anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior muticous.

*Sternum*.—Length equal to  $1\frac{1}{3}$  times the greatest breadth.

*Legs*.—Tibia I with narrow lateral scopula over  $\frac{2}{3}$  length; 2–3 spines down inner side.

*Vulva*.—As in fig. 15, *loc. cit.*

*Measurements*.—Anterior width of carapace, 1.7 mm.; length, 4 mm.

♂. “Pedipalps and palpal organ almost exactly as in *X. capensis*, Purc., differing solely in the shape of the outer tibial spine, which is longer, reaching almost to the apex of the palpal organ, and is quite straight at the apex, and simply pointed (p. xi, fig. 16).”

*Record of New Localities*.—1 ♀ (No. 3673). Calvinia or Van Rhynsdorp. (L. Mally, August 1897.)

#### XEROPHAEUS LUNULIFER, Purc.

1907. *X. lunulifer*. Purcell in A.M.N.H. (7), vol. xx, p. 319, pl. xiv, figs. 27 and 28.

*Specimens*.—1 ♂ and 3 ♀♀ (9618 ex. typis). Signal Hill, Cape Town. (Dr W. F. Purcell, September 1901.)

♀ *Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length equal to tibia and metatarsus I, and to metatarsus and  $\frac{3}{4}$  tarsus IV.

*Eyes*.—Anterior row only slightly procurved, medians a diameter apart, smaller than usual. Posterior row moderately procurved, medians at least a short diameter apart posteriorly, and over a long diameter from the laterals.

*Clypeus*.—Equal to  $1\frac{1}{2}$  times diameter of anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior border with 1 tooth.

*Sternum*.—Length slightly exceeding  $1\frac{1}{3}$  times greatest breadth.

*Legs*.—Tibia I with small anterior scopula on inner side, and 1 apical and 1 median spine.

*Vulva*.—As in fig. 28, *loc. cit.*

*Measurements*.—Length of carapace, ♀ 5.1 mm.; ♂ 5 mm. Anterior width, ♀ 2.3 mm.; ♂ 2 mm.

♀ *Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length

equal to tibia and  $\frac{3}{4}$  metatarsus I, and to metatarsus and  $\frac{1}{2}$  or more tarsus IV.

*Eyes*.—Anterior row slightly procurved, medians over a diameter apart, not much larger than the laterals. Posterior row slightly procurved, medians subrotund,  $\frac{1}{2}$  a short diameter apart, and  $1\frac{1}{2}$  long diameters from the laterals.

*Clypeus, Chelicera, and Sternum*.—As in ♀.

*Legs*.—Tibia I with a few anterior lateral scopular hairs on inner side, and 1 apical and 1 median spine. Metatarsus IV not appreciably lighter distally.

*Pedipalps*.—Palpal organ as in fig. 27, *loc. cit.* Tibial process short, just over  $\frac{1}{2}$  length of tibia, and about  $\frac{1}{3}$  length of tarsus; straight, moderately stout, tapering gradually anteriorly, hooked at extremity.

*Record of New Localities* :—

1 ♀ (No. 9413). Near Bethlehem (Stellenbosch Div.). (G. French, 1911.)

1 ♂ (B 5230). Table Mt. (R. W. Tucker, November 1920.)

#### XEROPHAEUS MATROOSBERGENSIS, n. sp. (Fig. 93.)

*Specimens*.—1 ♀ (B 3328 type). Matroosberg Mts., Ceres. (R. W. Tucker, January 1917.)

*Colour*.—Carapace medium brown, legs slightly lighter, abdomen dull testaceous.

*Carapace*.—Equal in length to tibia and metatarsus of 1st leg and to metatarsus and tarsus of 4th leg.

*Eyes*.—Anterior row procurved, laterals smaller than the medians and their own diameter from the margin of the carapace. Posterior row more strongly procurved, laterals subequal to the anterior laterals; medians subangular, oblique, and close together.

*Chelicera*.—Superior border with 3 strong teeth, inferior border with 1 tooth.

*Legs*.—All tarsi scopulate; metatarsi I and II scopulate to the base. Metatarsus I bearing 2 basal spines, tibia 1 apical and 1 median spine; metatarsus II similar. Metatarsus III with a few scopular hairs anteriorly, and numerous spines and bristles; metatarsus IV without scopular hairs.

*Vulva*.—As in fig. 93.

*Measurements*.—Length of carapace, 4 mm. Total length, 11.5 mm.



XEROPHAEUS OCCIDUUS, n. sp. (Fig. 94.)

*Specimens*.—1 ♂ (B 5095 type). Waterberg Mts., S.W. Prot. (R. Tucker, February 1920.)

*Carapace*.—Width across posterior row of eyes a little less than  $\frac{1}{2}$  the greatest width.

*Eyes*.—Anterior row moderately procurved (seen from above, slightly recurved); medians much larger than the laterals and touching them. Posterior row very slightly procurved; medians subrotund, over a diameter apart and a diameter or less from the laterals, which are somewhat larger. Clypeus equal to the long diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, which are small and joined together basally, ridge fashion. Inferior border with 1 small denticle.

*Legs*.—Anterior legs missing or rubbed. Metatarsi I and II with 2 basal spines on the under surface. Tarsi III and IV scopulate; metatarsi with few scopular hairs anteriorly, and numerous strong spines on the under surface.

*Pedipalps*.—Tibia armed on the outer apex with a long, stout process which divides into 2 anteriorly. Tarsal organ as in fig. 94; cf. *X. aridus* ♂.

*Measurements*.—Length of carapace, 2.8 mm. Total length, 4.9 mm.

XEROPHAEUS PALLIDUS, n. sp. (Fig. 95).

*Specimens*.—1 ♂ (B 3611 type). Krantzkop, Natal. (K. H. Barnard, November 1917.)

*Colour*.—Carapace and legs pale testaceous yellow, sparsely clothed with appressed dark hairs. Abdomen very slightly lighter, also clothed with dark hairs (almost completely rubbed off in the specimen). Anterior dorsal scutum showing as a small brown patch.

*Carapace*.—Equal to tibia and  $\frac{1}{3}$  metatarsus I, and to metatarsus and  $\frac{1}{3}$  tarsus IV.

*Eyes*.—Anterior medians over  $\frac{1}{2}$  a diameter apart, and nearly touching the laterals. Posterior row very strongly procurved; medians less than a long diameter apart, and more than a long diameter from the laterals, which are equal to, or slightly larger than the medians. Median ocular area longer than wide and narrower posteriorly.

*Chelicera*.—Superior border with 3 teeth, inferior border with 1 small one.

*Legs.*—Scopula on inner side of metatarsus I weak ; inner side also with 1 basal spine ; tibia with 1 apical, 1 median, and 1 basal spine on the inner side ; no scopular hairs present. Metatarsus II. similar to I but bearing 2 basal spines ; tibia without basal spine. Tarsus III scopulate, metatarsus very heavily spined. Tarsus IV bearing bristly hairs, and scopular hairs laterally on the under surface ; metatarsus with a moderately dense aggregation of hair apically on the under surface.

*Pedipalps.*—Femur with 2 apical, and 1 more median, spines dorsally. Tibia and palp as in fig. 95.

*Measurements.*—Length of carapace, 3.2 mm. Total length, 6.8 mm.

#### XEROPHAEUS PATRICKI, Purc.

1907. *X. patricki*. Purcell in A.M.N.H. (7), p. 327, pl. xv, fig. 43.

*Specimens.*—1 ♂ (13,642 type). Pungwe River, 50 miles E. of Umtali, Portug. E. Afr. (D. L. Patrick.)

*Carapace.*—Anterior width equal to  $\frac{1}{2}$  greatest width. Length equal to tibia and  $\frac{1}{2}$  metatarsus I, and equal to metatarsus IV.

*Eyes.*—Anterior row moderately procurved, medians  $\frac{1}{2}$  diameter apart. Posterior row moderately procurved, medians nearly touching posteriorly, and barely a long diameter from the laterals.

*Clypeus.*—Greater than the diameter of an anterior lateral eye.

*Chelicera.*—Superior border with 3 teeth, inferior 1.

*Sternum.*—Length equal to  $1\frac{1}{4}$  times greatest breadth.

*Legs.*—Tibia I with slight lateral anterior scopulae on both sides ; and with a row of 4 spines down inner side of under surface. Distal  $\frac{1}{2}$  of tarsus IV much lighter.

*Pedipalps.*—Palpal organ as in fig. 43 *loc. cit.* Tibial process as long as tibia, and  $\frac{1}{2}$  as long as tarsus ; stout basally, tapering gradually anteriorly, straight, apex pointed and slightly curved inwards.

*Measurements.*—Length of carapace, 4 mm. ; anterior width, 2 mm.

#### XEROPHAEUS PERVERSUS, Purc.

1908. *X. aridius*. Purcell in Schultze Zool. Forschungsreise in Sudafrika, Bd. i, p. 236, pl. xi, fig. 18.

*Specimens.*—1 ♂ (150,599 type). Cape Cross, S. Hereroland. (L. Schultze, 1903.)

*Carapace.*—Anterior width equal to  $\frac{1}{2}$  greatest width. Length equal to tibia and  $\frac{2}{3}$  metatarsus I, and to metatarsus IV.

*Eyes*.—Anterior row moderately procurved, medians  $\frac{3}{4}$  diameter apart. Posterior row moderately procurved, medians  $\frac{1}{2}$  a short diameter apart, and quite  $1\frac{1}{2}$  long diameters from the laterals.

*Clypeus*.—Equal to diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior border muticous.

*Sternum*.—Length equal to  $1\frac{1}{2}$  times the greatest breadth.

*Legs*.—Tibia I with a few scopular hairs anteriorly, and 1 median and 1 basal spine. Tarsus IV with no light apical portion.

*Pedipalps*.—Palpal organ as in fig. 18, *loc. cit.* Tibial process short, stout, and blunt, slightly pointed anteriorly; length only  $\frac{1}{3}$  tibia, and less than  $\frac{1}{4}$  tarsus.

#### XEROPHAEUS PHASEOLUS, n. sp. (Fig. 96.)

*Specimens* :—

2 ♀♀ (11,722 types). Steenberg Cove, St. Helena Bay, Malmesbury Div. (J. C. Goold, May 1902.)

2 ♀♀ (13,261). Stompneus, St. Helena Bay. (J. C. Goold, July 1903.)

*Colour*.—Carapace and legs light golden brown; abdomen densely clothed with tawny brown hairs on the dorsal surface; slightly paler below.

*Carapace*.—Equal to the tibia, metatarsus, and nearly  $\frac{1}{2}$  the tarsus of the 1st leg, and to metatarsus and tarsus IV.

*Eyes*.—Anterior medians a diameter apart, and about  $\frac{1}{4}$  diameter from the laterals, which are only slightly smaller than the medians. Posterior medians less than a long diameter apart, and rather more than a long diameter from the laterals which are sub-equal to them. Median ocular area a little longer than wide, and very slightly narrower posteriorly.

*Chelicera*.—Superior border with 1 large and 2 very small teeth; inferior border muticous.

*Legs*.—Metatarsus I with 2 basal spines; tibia without spines or scopula. Tibia II with at least an apical spine. Tarsi III and IV scopulated; metatarsi heavily spined.

*Vulva*.—As in fig. 96.

*Measurements*.—Length of carapace, 3.3 mm. Total length, 7.3 mm.

#### XEROPHAEUS ROSTRATUS, Purc.

1907. *X. rostratus*. Purcell in A.M.N.H. (7), vol. xx, p. 321, pl. xiv, figs. 38, 38A, and 39.



*Specimens*.—♂ and ♀ (12,574 types). Graaf Reinet. (J. Paynter, September 1903.)

♀ *Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length equal to tibia and  $\frac{9}{10}$  metatarsus I, and to metatarsus and  $\frac{1}{4}$  or less metatarsus IV.

*Eyes*.—Anterior row moderately procurved, medians  $\frac{1}{2}$  diameter apart. Posterior row well procurved, medians very close together posteriorly, and a long diameter from the laterals.

*Clypeus*.—Less than the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior border with 1.

*Sternum*.—Length equal to  $1\frac{1}{2}$  times greatest breadth.

*Legs*.—Tibia I with anterior lateral scopula on inner side, and with 1 apical and 1 median spine.

*Vulva*.—As in fig. 39, *loc. cit.*

*Measurements*.—Length of carapace, ♀ 4.5 mm.; ♂ 4.8 mm. Anterior width, ♀ and ♂, 2 mm.

♂ *Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length equal to tibia and  $\frac{2}{3}$  metatarsus I, and to metatarsus and  $\frac{1}{4}$  tarsus IV.

*Eyes, Clypeus, Chelicera, and Sternum*.—As in ♀.

*Legs*.—Tibia I with no anterior scopula, and with 2 apical and 1 median spines. Distal  $\frac{1}{2}$  of tarsus IV slightly lighter.

*Pedipalps*.—Palpal organ as in fig. 38A. Tibial process as in 38, short, stout, tapering, and curved apically, about  $\frac{1}{4}$  length of tarsus and  $\frac{1}{3}$  length of tibia.

#### XEROPHAEUS RUBEUS, n. sp. (Fig. 97.)

*Specimens*.—1 ♀ and jv. (No. 878). Knysna. (Dr. W. F. Purcell, March 1896.)

*Colour*.—Carapace light reddish brown; legs slightly lighter. Abdomen testaceous, densely clothed with fine appressed brown hairs.

*Carapace*.—Equal in length to tibia, metatarsus, and about  $\frac{1}{3}$  tarsus I, and equal to metatarsus and tarsus IV.

*Eyes*.—Anterior medians large and slightly nearer to the laterals than to each other. Posterior medians sub-circular and slightly smaller than the laterals; about  $\frac{1}{2}$  their own diameter apart, and nearly 2 diameters from the laterals. Median ocular area much longer than wide, and slightly narrower posteriorly.

*Chelicera*.—Superior border with the usual 3 teeth, inferior border with 1 denticle.

*Legs*.—Metatarsus I with 2 basal spines; tibia with an apical and

a median spine, and a few anterior scopular hairs on the inner side; 2nd leg similar, but without the scopular hairs on the tibia. Tarsi III and IV scopulate, metatarsi heavily spined.

*Vulva*.—As in fig. 97.

*Measurements*.—Length of carapace, 5 mm. Total length, 10 mm.

XEROPHAEUS SILVATICUS, n. sp. (Fig. 98.)

*Specimens*.—1 ♀ (14,513 type). Manubi Forest, Kentani District. (Miss Pegler, October 1905.)

*Colour*.—Carapace and legs golden yellow; abdomen clothed with dark brown hairs on the dorsal surface, and paler below.

*Carapace*.—Subequal to tibia and metatarsus I, and equal to metatarsus and  $\frac{2}{3}$  tarsus IV.

*Eyes*.—Anterior medians very little farther from each other than from the smaller laterals. Posterior medians about  $\frac{1}{2}$  a diameter apart, and at least a long diameter from the laterals, which are slightly larger than the medians.

*Chelicera*.—Superior border with 3 teeth, inferior border with 1 small tooth.

*Legs*.—Metatarsus I with 2 basal spines; tibia with 1 apical, 1 median, and 0–1 basal spine on the inner side; no scopula present. Metatarsus II with or without an additional median spine on the under surface; tibia lacking the basal spine. Tarsus III scopulated; metatarsus densely clothed distally on the under surface with black bristle-like hairs. Tarsus IV bearing scopular hairs laterally, and short bristle-like hairs down the centre; metatarsus also with black bristles distally on the under surface.

*Vulva*.—As in fig. 98; the posterior dark portions have the appearance of depressions, and are masked by a dense growth of stiff hairs directed posteriorly and inwards.

*Measurements*.—Length of carapace, 3.1 mm. Total length, 7.5 mm.

XEROPHAEUS SPIRALIFER, Purc.

1907. *X. spiralifer*. Purcell in A.M.N.H. (7), vol. xx, p. 318, pl. xiv, figs. 24 and 25.

*Specimens*.—♂ and ♀ (11,978 types). Eierfontein, 8–9 mls. W. of Hanover. (S. C. Schreiner, December 1901–February 1902.)

♀ *Carapace*.—Anterior width slightly less than  $\frac{1}{2}$  greatest width. Length equal to tibia, metatarsus and  $\frac{1}{3}$  tarsus I, and metatarsus and  $\frac{2}{3}$  tarsus IV.

*Eyes*.—Anterior row moderately procurved, medians  $\frac{1}{4}$  diameter apart. Posterior row strongly procurved, medians large, subangular, nearly contiguous posteriorly, and less than a long diameter from the laterals.

*Clypeus*.—About equal to the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior with 1.

*Sternum*.—Length equal to  $1\frac{1}{3}$  times greatest width.

*Legs*.—Tibia I with lateral scopulae over  $\frac{1}{2}$  anterior length; 1 apical spine on under surface.

*Vulva*.—As in fig. 25, *loc. cit.*

*Measurements*.—Anterior width of carapace, ♂ and ♀, 1.5 mm. Total length, ♀ 3.8 mm.; ♂ 3.5 mm.

♂ *Carapace*.—Anterior width  $\frac{1}{2}$  greatest width. Length equal to tibia and  $\frac{2}{3}$  metatarsus I, and slightly exceeding metatarsus IV.

*Clypeus, Eyes, Sternum, and Chelicera*.—As in ♀.

*Legs*.—Metatarsus I with 1 spine basally. Tibia I with very slight apical lateral scopulae and 1 apical spine. Metatarsus IV with distinct light band in distal  $\frac{1}{2}$ .

*Pedipalps*.—As in fig. 24, *loc. cit.* Tibial process short, thick, truncated apically, and bearing on anterior side a slender process almost at right angles to the main portion, and ending in a downward curved claw.

#### XEROPHAEUS SPOLIATOR, Purc.

1907. *X. spoliator*. Purc. in A.M.N.H. (7), vol. xx, p. 321, pl. xiv, figs. 29 and 30.

*Specimens*.—2 ♂♂ (9546 types) and 2 ♀♀ (9485). Hanover. (S. C. Schreiner, September–November 1901.)

♀ *Carapace*.—Anterior width equal to  $\frac{1}{2}$  greatest width. Length equal to tibia, metatarsus, and at least  $\frac{1}{4}$  metatarsus I, and to metatarsus and  $\frac{4}{5}$  tarsus IV.

*Eyes*.—Anterior row very slightly procurved, medians a diameter apart. Posterior row very slightly procurved, medians over a short diameter apart, and nearly 2 long diameters from the laterals.

*Clypeus*.—About equal to the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth and 1 to 2 denticles; inferior border muticous.

*Sternum*.—Length equal to  $1\frac{1}{2}$  times the greatest breadth.

*Legs*.—Tibia I scopulate laterally over  $\frac{1}{3}$  inner side; bearing 1 apical, 1 median, and 1 basal spine.

*Vulva*.—As in fig. 30, *loc. cit.*



*Measurements.*—Length of carapace, ♀ 6 mm.; ♂ 4 mm. Anterior width, ♀ 2.5 mm.; ♂ 1.6 mm.

♂ *Carapace.*—Anterior width  $\frac{1}{2}$  greatest width. Length equal to tibia and at least  $\frac{1}{3}$  metatarsus I, and to metatarsus and about  $\frac{1}{4}$  tarsus IV.

*Eyes.*—Anterior row slightly procurved, medians  $\frac{3}{4}$  diameter apart. Posterior row slightly procurved, medians less than a short diameter apart posteriorly, and about  $1\frac{1}{2}$  long diameters from the laterals.

*Clypeus, Chelicera, and Sternum.*—As in ♀.

*Legs.*—Tibia I with a few scopular hairs apically on inner side, and with 2 apical, 2 median, and 2 basal spines on under surface; tarsus IV slightly lighter over distal  $\frac{1}{2}$ .

*Pedipalps.*—Palpal organ as in fig. 29, *loc. cit.* Tibial process short and stout, scarcely as long as tibia, and about  $\frac{1}{4}$  length of tarsus; tapering anteriorly, very slightly hooked.

*Record of New Localities.*—3 ♀♀ (B 3329). Kimberley.

#### XEROPHAEUS TENEBROSUS, n. sp. (Fig. 99.)

*Specimens* :—

1 ♀ (No. 869 type). Knysna Forest, Knysna Div. (Dr. W. F. Purcell, March 1896.)

1 ♀ (150,698). Howick, Natal. (Dr. W. F. Purcell, September 1908.)

*Colour.*—Carapace dark orange brown, sparsely clothed with appressed silky hairs; legs similar in colour, but patellae lighter distally, and metatarsi and distal portion of tarsi darker and redder; tarsi, especially of posterior legs, with light extremities. Abdomen dull testaceous where rubbed, otherwise clothed with tawny brown hairs; paler ventrally.

*Carapace.*—Slightly surpassing tibia and metatarsus I, and equal to metatarsus and tarsus IV.

*Eyes.*—Median anteriors about  $\frac{1}{3}$  of a diameter apart, and nearly touching the much smaller laterals. Posterior medians sub-angular, less than a long diameter apart, and at least a long diameter from the laterals. The posterior laterals are larger than the medians, and slightly larger than the anterior laterals. Median ocular area very little longer than wide and slightly narrower posteriorly.

*Chelicera.*—Superior border with 1 large and 2 very small teeth; inferior border bearing 1 denticle.

*Sternum.*—Somewhat longer and narrower than usual.

*Legs.*—Metatarsus I with 1 basal spine ; tibia I with 1 inner apical spine but bearing no scopular hairs ; several hairs on the under surface, however, are stout and bristle like. Metatarsus II with 2 basal spines ; tibia with 2 apical, 2 median, and 1 anterior lateral spines on the inner surface ; also furnished with numerous fine bristle-like hairs. Tarsi III and IV scopulate ; metatarsi heavily spined and bearing apically on the under surface a brush of long bristly hairs ; that on metatarsus IV being longer than on III.

*Vulva.*—As in fig. 99.

*Measurements.*—Length of carapace, 4.2 mm. Total length, 9.2 mm.

The specimen from Natal differs from the type on the following slight points : Colour of carapace and legs a duller and more uniform brown ; abdomen testaceous, and lacking pubescence. Sternum comparatively not so long and narrow. The spination of the anterior legs is different, in that metatarsus I has 2 basal spines, and the tibia has a median spine also on the under surface ; the 2nd leg is similar. The vulva varies slightly, in that the anterior pocket is further produced, rounder, and less compressed in shape ; the median groove is wider, and has a dark central ridge, which tapers into the anterior pocket.

*XEROPHAEUS VICKERMANI*, n. sp. (Fig. 100 A and B.)

*Specimens* :—

1 ♀ (B 3686 type). Junction of Marico and Crocodile Rivers, N.W. Transv. (R. W. Tucker, January–February 1918.)

2 ♀♀ (B 2084). Upington, S.W. Africa. (R. W. Tucker, December 1915. Percy Sladen Memorial Exped.)

1 ♀ and 1 ♂ (B 4343). Komatipoort, Low Veld, E. Transv. (R. W. Tucker, December 1918.)

*Carapace.*—Equal in length to tibia and  $\frac{2}{3}$  metatarsus I, and to metatarsus and  $\frac{1}{2}$  tarsus IV.

*Eyes.*—Anterior row procurved ; laterals sub-equal to the medians, and  $\frac{2}{3}$  their own diameter from the anterior margin of the carapace. Posterior row more strongly procurved ; laterals slightly smaller than the anterior laterals ; medians sub-angular and close together.

*Chelicera.*—Superior border with 3 teeth, the central one large ; inferior border with 2 small denticles.

*Legs.*—All the tarsi scopulate. Metatarsi I and II scopulate to the base. Tibia I scopulate anteriorly on both sides of the under surface,

the scopulation on the inner side extending  $\frac{2}{3}$  of the total length. Tibia II scopulate slightly on the inner side of the under surface; metatarsus I and II each with an inner basal spine on the under surface, and tibia I and II each with a median and a basal spine on the outer side of the under surface.

*Vulva*.—As in fig. 100A.

*Measurements*.—Carapace, 3.9 mm. long. Total length, 9 mm.

The occurrence of the same species in both S.W. Africa and N.W. Transvaal is worthy of notice. Several cases are known of the occurrence of species of Drassidae from C. Province to Rhodesia and E. Africa, e.g., *Camillina amnicola* (Tucker) and *Zelotes montana* (Purc.), and several others; but a more lateral connection across Bechuanaland has hitherto not been apparent. It is possible, though, that the distribution of the species lies to the south through C. Province and Orange Free State, and not across Bechuanaland.

♂ *Carapace*.—Slightly exceeding in length tibia I and metatarsus IV.

*Eyes*.—Median anterior eyes much larger than the laterals; laterals  $\frac{1}{2}$  their diameter from the anterior border. Posterior medians very much larger than the laterals; otherwise as in the ♀.

*Maxillae*.—Narrow and with protuberant outer apices (as in *Clubionidae*).

*Chelicera*.—As in ♀.

*Legs*.—All tarsi scopulated. Metatarsus I very long, scopulate to the base and with one inner basal spine; tibia with one or two scopular hairs anteriorly on the inner side, and one median and one basal spine. Metatarsus II shorter than I, scopulate to the base and with 2 basal spines; tibia with 2 median spines and no scopular hairs.

*Pedipalps*.—Tibia nearly as long as the tarsus, without apical spur and bearing 1 dorsal and 4 lateral spines as in fig. 100B. Tarsus and palpal organ as in fig. 100B. Femur with 3 apical and 1 nearly median spines on the dorsal surface.

*Measurements*.—Carapace, 3.4 mm. Total length, 7.9 mm.

## THEUMEAE.

### *Key to Genera.*

Anterior median eyes equal to or smaller than the laterals; inferior spinners twice as long and stout as the superiors, and well separated from them.  
 Anterior tarsi and metatarsi well scopulate. Inferior margin of chelicera with 3-4 small teeth, superior margin with 3 or more larger teeth *Theuma*.  
 Anterior median eyes not smaller than the laterals; inferior spinners three times



as long as the superiors, and not greatly separated from them. Anterior tarsi and metatarsi not scopulate. Inferior margin of chelicera with 1 weak tooth, superior margin with 4 larger teeth . . . . *Theumella*.

Of these Genera *Theumella* occurs north of the region dealt with.

### GEN. THEUMA, Simon.

#### Key to ♀♀.

- (12). 1. Inferior spinners equal to or less in length than width of posterior row of eyes.  
 2. Length of carapace equal to tibia and  $\frac{1}{2}$  or more metatarsus I.  
 3. Length of carapace equal to metatarsus and  $\frac{1}{2}$  or more tarsus IV.
- (7). 4. Posterior row of eyes straight.
- (6). 5. Posterior medians 1 diameter or less apart . . . . *velox*.  
 (5). 6. Posterior medians over 1 diameter apart . . . . *purcelli*.  
 (4). 7. Posterior row recurved.
- (9). 8. Posterior medians 1 diameter or less apart . . . . *foveolata*.  
 (8). 9. Posterior medians over 1 diameter apart.
- (11). 10. Posterior medians  $1\frac{1}{2}$  diameters or less from the posterior laterals  
*capensis*.
- (10). 11. Posterior medians over  $1\frac{1}{2}$  diameters from the posterior laterals  
*pusilla*.
- (1). 12. Inferior spinners exceeding in length the width of posterior row of eyes.
- (20). 13. Length of carapace equal to tibia and  $\frac{1}{2}$  or more metatarsus I.  
 (17). 14. Length of carapace equal to metatarsus  $\frac{1}{2}$  or more tarsus IV.
- (16). 15. Anterior pocket of vulva small, median tunnel narrowing to a point anteriorly . . . . *elucubata*.  
 (15). 16. Anterior pocket of vulva fairly large, median tunnel parallel-sided and not pointed anteriorly . . . . *schultzei*.  
 (14). 17. Length of carapace equal to metatarsus and less than  $\frac{1}{2}$  tarsus IV.
- (19). 18. Tibia 1 spineless . . . . *mutica*.  
 (18). 19. Tibia 1 spined . . . . *schreineri*.  
 (13). 20. Length of carapace equal to tibia and less than  $\frac{1}{2}$  metatarsus I.  
 (24). 21. Posterior medians one diameter or less apart.  
 (23). 22. Superior border of chelicera with 3 teeth . . . . *cedri*.  
 (22). 23. Superior border of chelicera with more than 3 teeth . . . . *maculata*.  
 (21). 24. Posterior medians over 1 diameter apart . . . . *fusca*.

*T. aprica* (Sim.) and *T. xyliina* (Sim.) are not included in this key, as the types have not been available for examination, and the descriptions given are insufficient for the purpose.

#### Key to ♂♂.

- (6). 1. Length of inferior spinners equal to or less the width of posterior row of eyes.  
 (3). 2. Length of carapace equal to tibia I . . . . *maculata*.

- (2). 3. Length of carapace exceeding tibia I.  
 (5). 4. Posterior medians 1 diameter or less apart and over  $1\frac{1}{2}$  diameters from laterals . . . . . *capensis*.  
 (4). 5. Posterior medians over 1 diameter apart and  $1\frac{1}{2}$  diameters or less from laterals . . . . . *parva*.  
 (1). 6. Length of inferior spinners exceeding the width of posterior row of eyes.  
 7. Length of carapace equal to or less than metatarsus IV.  
 (9). 8. Posterior row of eyes straight . . . . . *schreineri*.  
 (8). 9. Posterior row of eyes recurved.  
 (11). 10. Posterior medians 1 diameter or less apart . . . . . *ababensis*.  
 (10). 11. Posterior medians over 1 diameter apart . . . . . *fusca*.

THEUMA ABABENSIS, n. sp. (Fig. 116.)

*Specimens*.—1 ♂ (B 2143 type). Ababis, S.W. Protectorate. (R. W. Tucker, December 1915. Percy Sladen Memorial Expedition.)

*Colour*.—Carapace light yellowish brown with darker radiations from the stria; legs a little lighter. Abdomen testaceous (rubbed); sternum testaceous, dark rimmed and with 3 lateral brown marks.

*Carapace*.—Length equal to tibia I and to metatarsus IV.

*Eyes*.—Anterior medians less than  $\frac{1}{2}$  a diameter apart, and touching the larger laterals. Seen from above the anterior row is slightly recurved; posterior row more recurved, medians round,  $\frac{1}{2}$  a diameter apart, and nearly a diameter from the laterals, which are only a little larger; laterals scarcely nearer to the anterior laterals than to the posterior medians.

*Chelicera*.—Superior border with 3 teeth, inferior border with 3–4 small denticles.

*Legs*.—Tibia I with 3 spines down each side of the under surface, and 2 spines on each lateral surface; remaining legs missing or mutilated.

*Spinners*.—Long and comparatively close together; length nearly twice the width of the posterior row of eyes.

*Pedipalps*.—Palpal organ as in fig. 116.

*Measurements*.—Length of carapace, 2.5 mm. Total length, 5.4 mm.

THEUMA APRICA, Sim.

1892. *T. aprica*. Simon in Hist. Nat. des Araign., 2nd edit., p. 351.

“♀.—Length, 5.8 mm. From *T. xyliana*, Sim., to which it is closely related and similar, it differs in the median anterior eyes, being considerably smaller than the laterals, posterior row of eyes strongly procurved, the medians being oval, oblique, and less than an eye’s length apart, and legs and spines weak.”

## THEUMA CAPENSIS, Purc. (Figs. 105 and 115.)

1907. *T. capensis*. Purcell in A.M.N.H. (7), vol. xx, p. 299.

*Specimens* :—

♀ and jv. (12,112 ex. typis). Camps Bay, Cape Pens. (Dr. W. F. Purcell, May 1902.)

3 ♂♂ (12,064). Signal Hill, Cape Town. (Dr. W. F. Purcell, October 1901.)

♀ *Carapace*.—Length equal to tibia and metatarsus I, and to metatarsus and  $\frac{3}{4}$  tarsus IV.

*Eyes*.—Seen dry. Posterior row slightly recurved; medians scarcely smaller than the laterals, over a diameter apart, and at least  $1\frac{1}{2}$  from the laterals. Posterior laterals nearer to anterior laterals than to posterior medians.

*Clypeus*.—Slightly less than the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 4–5, inferior with 2–3 teeth.

*Legs*.—Metatarsus I with 1–2 spines on inner side and 2 basally on outer side of under surface. Tibia I with scanty scopular hairs laterally, and 4–5 spines down inner side and 3–6 down outer side of under surface; no lateral spines.

*Spinners*.—Length of inferior spinners less than width of posterior row of eyes.

*Vulva*.—As in fig. 105.

*Measurements*.—Length of carapace, ♀ 2.8 mm.; ♂ 2 mm.

♂ *Carapace*.—Length slightly exceeding tibia I, and equal to metatarsus and  $\frac{1}{4}$  tarsus IV.

*Eyes*.—Seen dry. Posterior row well recurved; medians smaller than the laterals, nearly  $1\frac{1}{2}$  diameters apart and  $1\frac{1}{2}$  from the laterals; the latter nearer to the anterior laterals than to the posterior medians.

*Clypeus*.—Very much less than the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 4, inferior with 3–4 teeth.

*Legs*.—Metatarsus I with 2 spines down inner and 3 down outer side of under surface.

*Spinners*.—Inferior spinners longer than the posterior row of eyes.

*Pedipalps*.—Tibial process normal, palpal organ as in fig. 115.

A variety of this form with 4 minute teeth instead of 2 on the inferior margin of the chelicera is represented by the following specimens :—

(b) 1 ♀ from Ceres. (Dr. W. F. Purcell.)

(c) 1 ♀ from near Tulbagh Road Station. (Dr. W. F. Purcell.)

(d) 1 ♀ from Caledon. (Dr. W. F. Purcell.)



*Records of New Localities* :—

- ♂ and jv. ♀♀ (B 3027). Matroosberg Mts., Ceres (3500–4000 ft.).  
(R. W. Tucker, January 1917.)
- ♂ (B 3429). Matroosberg Mts., Ceres (4000 ft.). (R. W. Tucker, December 1917.)
- ♂ (B 4647). Matjesfontein. (Dr. W. F. Purcell, November 1905.)
- ♀ (B 4832). Nr. Gaub, North S.W. Protect. (R. W. Tucker, January 1920.) This specimen, although from such a distant locality, does not appear separable from this species.

## THEUMA CEDRI, Purc. (Fig. 106.)

1907. *T. cedri*. Purcell in A.M.N.H. (7), vol. xx, p. 302.

*Specimens*.—1 ♀ (3629 type). Bosch Kloof Cedarbergen, Clan-William. (R. Pattison, November 1897.)

*Carapace*.—Length equal to tibia and just over  $\frac{1}{3}$  metatarsus I, and to metatarsus and about  $\frac{1}{3}$  tarsus IV.

*Eyes*.—Seen dry. Posterior row slightly recurved, medians smaller than the laterals, less than a diameter apart, and about  $1\frac{1}{2}$  diameters from the laterals; latter equidistant from the anterior laterals and posterior medians.

*Clypeus*.—Slightly exceeding the diameter of a posterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior with 3 teeth.

*Legs*.—Metatarsus I with 2 basal and 2 sub-median spines on under surface. Tibia I with no scopula, and with 2 apical, 2 median, and 2 basal spines on under surface, and 2–3 spines on interior lateral surface.

*Spinners*.—Length of inferior spinners very slightly exceeding width of posterior row of eyes.

*Vulva*.—As in fig. 106.

*Measurements*.—Length of carapace, 3.8 mm.

## THEUMA ELUCUBATA, n. sp. (Fig. 101.)

*Specimens*.—1 ♀ (B 4483). Florida, Transvaal High Veld. (R. W. Tucker, December 1918.)

*Colour*.—Carapace uniform tawny yellow, ocular region somewhat infuscated. Legs similar in colour, darkening distally. Abdomen testaceous, usual dark hairs mainly rubbed off. Sternum and coxae very pale brown, almost testaceous, and dark-rimmed.

*Carapace*.—Length equal to tibia, and nearly  $\frac{2}{3}$  metatarsus I, and to metatarsus and just over  $\frac{1}{2}$  tarsus IV.

*Eyes*.—Anterior median eyes a diameter apart, and much smaller than the laterals, from which they are about  $\frac{1}{2}$  a diameter apart. Seen from above the anterior row is straight to slightly procurved; posterior row wide and very slightly recurved; posterior medians rotund, subequal to the anterior medians; well over a diameter apart, and at least  $2\frac{1}{2}$  diameters from the laterals. Posterior laterals slightly nearer to the anterior laterals than to the posterior medians.

*Chelicera*.—Superior border bearing 3 large and 1 small teeth; inferior border bearing 5 small teeth of equal size.

*Legs*.—Metatarsus I scopulate at sides of under surface nearly to base; 2 basal and 1 lateral spines and 2 apical spiniform hairs on the under surface; tibia with 4 outer and 3–4 inner spines on the under surface; 2nd leg similar, but tibia with 5 inner spines.

*Spinners*.—Inferior spinners a little over  $\frac{1}{2}$  their length apart; length exceeding the width of the posterior row of eyes; each bearing a conspicuous apical spigot in addition to the long bunched fusules.

*Vulva*.—As in fig. 101.

*Measurements*.—Carapace, 3.9 mm. Total length, 8.5 mm.

#### THEUMA FOVEOLATA, n. sp. (Fig. 102.)

*Specimens*.—1 ♀ (B 3254 type). Salisbury, S. Rhodesia. (R. W. Tucker, April 1917.)

*Colour*.—Carapace yellowish-brown, darker anteriorly; legs slightly darker than the carapace; abdomen pallid; sternum, coxae, etc., paler than the carapace.

*Carapace*.—Length equal to tibia and just over  $\frac{1}{2}$  metatarsus I and to metatarsus and  $\frac{4}{5}$  tarsus IV.

*Eyes*.—Seen from above, the anterior row is slightly recurved; medians subequal to laterals and equidistant. Posterior row much wider than the anterior, and very slightly recurved; median eyes oblique, pearly, more than their long diameter from the laterals, but less from each other; posterior laterals slightly nearer to the anterior laterals than to the posterior medians.

*Chelicera*.—Toothed as in *T. velox*, Purc.

*Legs*.—Metatarsus I without spines, and densely scopulate. Tibia I with a narrow scopular strip extending over halfway down the inner

edge of the under surface; anterior scopula on outer edge weak; 4 stout spines down inner, and 3 down outer edge of the under surface. Tarsal fascicles very dense, and as long as the claws.

*Spinners*.—Inferior spinners nearly their own length apart, and equal in length to the posterior row of eyes; median spinners very short; superior spinners over twice as long as the medians.

*Vulva*.—As in fig. 102. The usual triangular portion of the vulva is very short, and almost parallel-sided; posterior pocket broad and conspicuous; anterior enlargement of considerable size.

*Measurements*.—Carapace, 4 mm. long. Total length, 9.8 mm.

A ♀ and jv. ♂ (B 4195), Kimberley (Bro. J. H. Power, September 1918), are also identified as this species; the ♀ is a little smaller and lighter than the type, and the vulva differs slightly from text-fig. 102 in that the central dark portion is more anterior in position and is strongly arched showing a tunnel-like opening underneath; the general shape and appearance, however, points to their being the same species.

#### THEUMA FUSCA, Purc. (Figs. 104 and 111.)

1907. *T. fusca*. Purcell in A.M.N.H. (7), vol. 20, pp. 300 and 304.

1908. *T. fusca*. Purcell in L. Schultze, Zool. Forschungsreise in Sudafrika, p. 234.

*Specimens* :—

6 ♀♀ (12,667 types). Montagu Baths. (Dr. W. F. Purcell, November 1902.)

2 ♂♂ (3357). Ashton. (Dr. W. F. Purcell, November 1897.)

♀ *Carapace*.—Equal in length to tibia and about  $\frac{1}{2}$  metatarsus I, and to metatarsus and  $\frac{1}{3}$  tarsus IV.

*Eyes*.—Seen dry. Posterior row moderately recurved; posterior medians over a diameter apart, and 2 diameters from the laterals which are slightly larger. Posterior laterals equidistant from the anterior laterals and posterior medians.

*Clypeus*.—Equal to diameter of anterior lateral eye.

*Chelicera*.—Superior border with 4 teeth, inferior with 3.

*Legs*.—Tibia I with a slight anterior lateral scopula, and with 3 pairs of spines on the under surface.

*Spinners*.—Inferior spinners equal in length to  $1\frac{1}{2}$  times the breadth of the posterior row of eyes.

*Vulva*.—As in fig. 104.

*Measurements*.—Length of carapace, 4.1 mm.



♂ *Carapace*.—Length equal to metatarsus and  $\frac{1}{6}$  tarsus I, and to slightly less than metatarsus IV.

*Eyes*.—Posterior row moderately recurved; medians barely a diameter apart, and about 2 diameters from the laterals. Posterior laterals equidistant from anterior laterals and posterior medians.

*Clypeus*.—Equal to diameter of anterior lateral eye.

*Chelicera*.—Superior border with 4 teeth, inferior with 3 small teeth.

*Legs*.—Tibia I without scopula, with 3 pairs of spines on under surface, and also 2 spines on lateral surface.

*Pedipalps*.—Tibial process equal to  $\frac{1}{2}$  the length of the tarsus, tapering gradually, and curved outwards. Palpal organ, fig. 111.

*Measurements*.—Length of carapace, about 3.1 mm.

*Record of new localities* :—

2 ♀♀ and 1 jv. Bergvliet, C. Penins. (Dr. W. F. Purcell.)

♀ (B 1651). Matjesfontein. (Dr. W. F. Purcell, November 1905.)

♀ (B 4474). Messina, N. Transvaal. (R. W. Tucker, November 1918.)

2 ♀♀ (B 3883). Insiza, S. Rhodesia. (G. French.)

♀ (B 3717). Junc. Croc. and Marico Rs., N. W. Transv. (R. W. Tucker, February 1918.)

2 ♀♀ (B 2973). Matroosberg Mts., Ceres. (R. W. Tucker, January 1917.)

2 ♀♀ (B 3472). Matroosberg Mts., Ceres. (R. W. Tucker, November 1917.)

4 ♀♀ (B 3447). Matroosberg Mts., Ceres. (R. W. Tucker, December 1917.)

2 ♀♀ and 1 ♂ (B 3500). Matroosberg Mts., Ceres; 4500 ft. (R. W. Tucker, November 1917); it is doubtful if this ♂ belongs to the ♀♀; it does not altogether agree with the type ♂ *fusca*.

#### THEUMA MACULATA, Purc. (Figs. 109 and 112.)

1907. *T. maculata*. Purcell in A.M.N.H. (7), vol. xx, p. 302.

1908. *T. maculata*. Purcell in Schultze, Zool. Forschungsreise in Sudafrika, p. 234.

*Specimens*.—2 ♀♀, 1 ♂, and 1 jv. (3936 types). Beaufort West. (Dr. W. F. Purcell, September 1896.)

*Carapace*.—Length equal to tibia and  $\frac{1}{3}$  or more metatarsus I, and equal to metatarsus and  $\frac{1}{3}$  or more tarsus IV.

*Eyes*.—Seen dry. Posterior row decidedly recurved, medians smaller than the laterals, less than a diameter apart, and  $1\frac{1}{2}$  diameters from the laterals. Posterior laterals equidistant from posterior medians and anterior laterals.

*Clypeus*.—Equal to diameter of anterior lateral.

*Chelicera*.—Superior border with 4–5 teeth; inferior with 3–4.

*Legs*.—Metatarsus with 2 basal, and 1 outer median spines; tibia I not scopulate, and with 2 anterior and 2 other pairs of spines on the under surface, but no lateral spines.

*Spinners*.—Length of inferior spinners at least  $1\frac{1}{3}$  times width of posterior row of eyes.

*Vulva*.—As in fig. 109.

*Measurements*.—Length of carapace, ♀ 3.1 mm.; ♂ 3.2 mm.

♂ *Carapace*.—Length equal to tibia I, and to metatarsus and  $\frac{1}{3}$  tarsus IV.

*Eyes*.—Seen dry. Posterior row very slightly recurved; medians less than a diameter apart, and not much more than 1 diameter from the laterals; latter nearer to anterior laterals than to posterior medians.

*Clypeus*.—Equal to diameter of anterior lateral eye.

*Chelicera*.—Superior border with 4 large and 1 small teeth; inferior border with 3 small teeth.

*Legs*.—Tibia I with 1 pair of apical, and 2 other pairs of spines on under surface, and 1 anterior spine on outer lateral surface; metatarsus I with 2 basal and 1 median spines on outer side of under surface.

*Pedipalps*.—Tibial process normal. Palpal organ, fig. 112.

*Spinners*.—Length of inferior spinners equal to  $1\frac{1}{3}$  width of posterior row of eyes.

*New localities*.—The following determinations are regarded as doubtful, but are recorded in case further specimens from these regions confirm the presence there of this species:—

1 ♀ (B 3890). Insiza, S. Rhodesia. (G. French.) Eyes slightly different from type; anterior medians slightly larger; posterior row not so recurved.

2 ♀♀ (B 4475). Messina, N. Transv. (R. W. Tucker, November 1918.)

1 ♂ (B 2139). Tsais, Bull's Mouth Pass, S.W. Protectorate. (R. W. Tucker, Percy Sladen Memorial Expedition, December 1915.)

2 ♂♂ (B 4790). Ashton C.P. (R. W. Tucker, November 1919.)

## THEUMA MUTICA, Purc. (Fig. 103.)

1907. *T. mutica*. Purcell in A.M.N.H. (7), vol. xx, pp. 303 and 304.

*Specimens*.—1 ♀ (7783 type). Kogman's Kloof, Robertson Div. (Mrs. Purcell, August 1903.)

*Carapace*.—Length equal to tibia and  $\frac{1}{2}$  metatarsus I, and to metatarsus and nearly  $\frac{1}{2}$  tarsus IV.

*Eyes*.—Seen dry. Posterior row straight, medians subequal to the laterals, almost touching each other and just over a diameter from the laterals; the latter very much nearer to the anterior laterals than to the posterior medians.

*Clypeus*.—Slightly less than the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 5 teeth, inferior border with 1 denticle.

*Legs*.—Tibia and metatarsus I spineless.

*Vulva*.—As in fig. 103.

*Spinners*.—Inferior spinners longer than posterior row of eyes.

*Measurements*.—Length of carapace, barely 2 mm.

## THEUMA PARVA, Purc. (Fig. 113.)

1907. *T. parva*. Purcell in A.M.N.H. (7), vol. xx, pp. 303 and 304.

*Specimens*.—1 ♂ (13,502 type). Eierfontein, 8–9 miles west of Hanover. (S. C. Schreiner, January 1902.)

*Eyes*.—Seen dry. Posterior row straight. Medians larger than the laterals, over a diameter from each other, and less from the laterals; latter nearer to the anterior laterals than to the posterior medians.

*Clypeus*.—Equal to diameter of anterior lateral eye.

*Chelicera*.—Superior border with 4 teeth, inferior with 3.

*Legs*.—Metatarsus I with 3 long spines basally on under surface. Tibia I with 2 apical, 2 median, and 2 basal spines on under surface.

*Spinners*.—Length of inferior spinners slightly exceeding width of posterior row of eyes.

*Pedipalps*.—As in fig. 113.

*Measurements*.—Length of carapace, 1.7 mm.

*New Locality*.—1 ♂ (B 3305). Bulawayo, S. Rhodesia. (R. W. Tucker, May 1917.)

## THEUMA PURCELLI, n. sp. (Fig. 110.)

*Specimens* :—

1 ♀ (B 1945 type). Beaufort West. (Dr. W. F. Purcell, October 1905.)



1 ♀ (B 3731). Junction Crocodile and Marico Rs., N.W. Transv. (R. W. Tucker, February 1918.)

*Colour*.—Carapace and legs light orange brown; abdomen testaceous, apparently clothed with tawny hairs (mostly rubbed off) on dorsal surface; ventral surface slightly lighter.

*Carapace*.—Length equal to tibia and  $\frac{3}{4}$  metatarsus I, and to metatarsus and  $\frac{3}{4}$  tarsus IV.

*Eyes*.—Anterior row straight; medians a little smaller than the laterals and slightly nearer to each other. Posterior row straight; medians round and subequal to the laterals; over a diameter apart, and somewhat more from laterals; laterals considerably nearer to the anterior laterals than to the posterior medians.

*Chelicera*.—Two large and 1 small superior teeth, and 3 small inferior teeth.

*Legs*.—Metatarsus I with 1 large and 1–2 small basal spines, and a double row of fine short spines down the centre of the under surface; tibia with 4 pairs of long spines down the under surface, and practically no scopular hairs anteriorly. Metatarsus of 2nd leg similar to 1st leg; scopulation slightly less; tibia bearing 3 pairs of strong spines and a weak apical pair on the under surface.

*Spinners*.—Inferior spinners short, about  $\frac{1}{2}$  their own length apart and equal in length to the anterior row of eyes.

*Vulva*.—As in fig. 110.

*Measurements*.—Carapace, 2.7 mm. Total length, 6 mm.

*Other Localities* :—

1 ♀ (B 3753). Junc. Croc. and Marico Rs. (R. W. Tucker, February 1918), appears referable to this species.

2 ♀♀ (B 4291). Kaapmuiden, E. Transv., Low Veld. (R. W. Tucker, November 1918), also appear referable; the posterior lateral eyes, however, are subequal to the medians; total length of each specimen, 5 mm.

1 ♀ (B 4345). Komatipoort, E. Transv. (R. W. Tucker, November 1918); total length 4 mm.

#### THEUMA PUSILLA, Purc.

1908. *T. pusilla*. Purcell in Schultze, Zool. Forschungsreise in Sudafrika, p. 232, pl. x, fig. 11.

*Specimens* :—1 ♀ (150,528 type). Kammaggas, L. Namaqualand. (L. Schultze, August 1904.)

1 ♀. Kubub, Gt. Namaqualand. (March–April 1904.)

*Carapace*.—Length slightly exceeding tibia and metatarsus I, and equal to tibia and metatarsus IV.

*Eyes*.—Seen dry. Posterior row slightly recurved; posterior medians slightly larger than the laterals, oblique, oval, and about 2 diameters from the laterals, and  $1\frac{1}{2}$  from each other; laterals nearer to the anterior laterals than to the posterior medians.

*Clypeus*.—Exceeding the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 4–5 teeth, inferior border with 3.

*Legs*.—Metatarsus I with 1 sub-basal spine on outer side; tibia I narrowly scopulate almost to base on each side; no apical spines, but 3–4 outer and 2–3 inner spines on under surface.

*Spinners*.—Length of inferior spinners slightly less than width of posterior row of eyes.

*Vulva*.—As in fig. 11, *loc. cit.* Anterior cavity large.

*Measurements*.—Length of carapace, 2.5 mm.

THEUMA SCHREINERI, Purc. (Figs. 108 and 114.)

1907. *T. schreineri*. Purcell in A.M.N.H. (7), vol. xx, p. 301.

*Specimens*.—2 ♀♀ and 5 ♂♂ (9483). Hanover. (S. C. Schreiner, September–October 1901.)

♀ *Carapace*.—Equal in length to tibia and less than  $\frac{1}{2}$  metatarsus I, and to metatarsus and less than  $\frac{1}{6}$  tarsus IV.

*Eyes*.—Seen dry. Posterior row very slightly recurved; medians about  $1\frac{1}{2}$  diameters apart, and over 2 diameters from the laterals. Posterior laterals nearer to the anterior laterals than to the posterior medians.

*Clypeus*.—Slightly less than the diameter of an anterior lateral eye.

*Legs*.—Tibia I with 1 apical and 3 other pairs of spines, and with 2 inner lateral spines.

*Spinners*.—Length equal to  $1\frac{1}{2}$  times breadth of posterior row of eyes.

*Vulva*.—As in fig. 108.

*Measurements*.—Length of carapace, ♀, 4.5 mm.; ♂, 3.1 mm.

♂ *Carapace*.—Length equal to metatarsus and about  $\frac{1}{3}$  tarsus I, and subequal to metatarsus IV.

*Eyes*.—Seen dry. Posterior row almost straight, medians just over a diameter apart and  $1\frac{1}{2}$  from the laterals.

*Clypeus*.—Slightly less than the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 4 teeth, inferior with 3.

*Legs*.—Tibia I as in ♀.

*Pedipalps*.—As in *fusca*. Palpal organ as fig. 114.

*Spinners*.—Length of inferior spinners over  $1\frac{1}{2}$  times width of posterior row of eyes.

*New Localities* :—

1 ♀ (B 220). Burghersdorp. (Dr. Kannemeyer, September 1909.)

3 ♂♂ (B 4179). De Aar. (Dr. W. F. Purcell, September 1903.)

♂ and ♀ (B 2093). Namsem, S.W. Africa. (R. W. Tucker, December 22, 1915). Percy Sladen Memorial Expedition.

♂ and ♀♀ (B 5224). Vryburg. (J. E. Brown, May 1920.)

THEUMA SCHULTZEI, Purc. (Fig. 107.)

1908. *T. schultzei*. Purcell in Schultze, Zool. Forschungsreise in Sudafrika, p. 234.

*Specimens*.—2 ♀♀ (150,593). Steinkopf, L. Namaqualand. (L. Schultze, July–August 1904.)

*Carapace*.—Length equal to  $\frac{1}{2}$ – $\frac{3}{4}$  metatarsus I, and to metatarsus and about  $\frac{1}{2}$  tarsus IV.

*Eyes*.—Seen dry. Posterior row slightly recurved; medians about  $1\frac{1}{2}$  diameters apart, and 2 from the laterals which are equally distant from the anterior laterals and posterior medians, or perhaps slightly nearer the anterior laterals.

*Clypeus*.—About equal to the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 4 teeth, inferior border 3 denticles.

*Legs*.—Tibia I with slight lateral anterior scopula, and 4 pairs of spines on the under surface; no lateral spines.

*Spinners*.—Length of inferior spinners equal to  $1\frac{1}{3}$  width of posterior row of eyes.

*Vulva*.—As in fig. 107.

*Measurements*.—Length of carapace, 3.6 mm.

THEUMA VELOX, Purc.

1908. *T. velox*. Purcell in L. Schultze, Zool. Forschungsreise in Sudafrika, p. 233, pl. xi, fig. 12.

*Specimens*.—1 ♀ (150,591 *ex typis*). Kubub, Gt. Namaqualand. (L. Schultze, March–April 1904.)

*Carapace*.—Length equal to tibia and  $\frac{2}{3}$  metatarsus I, and subequal to metatarsus and tarsus IV.

*Eyes*.—Seen dry. Posterior row straight to very slightly recurved,



medians scarcely smaller than the laterals, and at least a diameter apart, and  $1\frac{1}{2}$  diameters from the laterals; posterior laterals distinctly nearer to the anterior laterals than to the posterior medians.

*Clypeus*.—Equal to the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 4, inferior border with 3 strong teeth.

*Legs*.—Tibia I with no apical spines, but with 3 other pairs and 1 mid-basal spine.

*Spinners*.—Length of inferior spinners about equal to width of posterior row of eyes.

*Vulva*.—As in fig. 12, *loc. cit.*

*Measurements*.—Length of carapace, 3.2 mm.

#### THEUMA XYLINA, Sim.

1892. *T. xylyna*. Sim in Hist. Nat. des Araign, 2nd ed., p. 351.

“♀.—Length, 6 mm. Cephalothorax, sternum, and legs pale yellowish, bearing silky pubescence; metatarsi, tarsi, and chelicera reddish. Abdomen whitish, densely clothed with reddish silky pubescence, and bearing long, black, erect hairs anteriorly. Anterior eyes equally and narrowly separated, subequal (medians scarcely smaller). Posterior eyes in a scarcely recurved line, subequal, medians transversely oval, separated by at least an eye's length. Anterior tibiae armed below with 3-3 long spines, metatarsi armed basally with 2-2 similar spines. Posterior tibiae armed laterally and dorsally with pairs of weak spines. Vulval plate reddish, longer than wide and parallel; fovea a longitudinal, narrow, triangular slit.”

#### ANAGRAPHIDAE.

##### GEN. ANAGRAPHIS, Sim.

##### ANAGRAPHIS PALLENS, Sim.

1893. *A. pallens*. Sim, Ann. Soc. Ent. Fr., vol. xlii, p. 308.

“Length, 8 mm.

“*Cephalothorax*.—Pallid, clothed with long, prone, silky white hairs; thoracic stria short. Median ocular area slightly longer than wide.

“*Abdomen*.—Narrow oblong, pale cinereous, clothed with silky white hairs, truncate anteriorly, and bearing dense ash-coloured setae.

“*Chelicera*, mouth parts, sternum, pedipalps, and legs pallid; spines of legs long, black, and numerous.

“ *Labium*.—Fairly long, exceeding  $\frac{1}{2}$  length of maxillae.

“ *Chelicera*.—Inferior margin with 3 minute teeth.

“ *Pedipalps*.—Very small; femora nearly straight, black spines; patella scarcely longer than wide, subquadrate and spined; tibia shorter than patella, apex obliquely cut, broadly produced on outer side into graceful spur, long and pointed, directed straight forward, but curved outwards apically. Tarsus fairly long oval, bulb simple, discoidal, wholly encircled by thick stylus.

“ *Locality*.—Cape of Good Hope.”

### THIRD SUB-FAMILY.

#### CITHAERONINAE.

Only 1 Genus, *Cithaeron*, recorded from South Africa. Species *C. delimbatus*, Strd., from E. Africa. North of region dealt with.

### FOURTH SUB-FAMILY.

#### CYBAEODINAE.

##### *Key to Genera.*

- (3). 1. Legs spined, sternum slightly longer than wide.
  - 2. Eight eyes, labium longer than broad; tarsi slender . . . . . *Cybaeodes*.
- (1). 3. Legs spineless, sternum broader than long.
- (5). 4. Eight eyes (sometimes reduced to four). Labium semicircular, and much wider than long. Inferior margin of chelicera armed with one simple denticle . . . . . *Andromma*.
- (4). 5. Eight eyes. Labium at least as long as broad. Inferior spinners more widely separated. Chelicera armed on inferior margin with 2 strong processes, the first straight, the second long, curved, and with terminal angular dilation . . . . . *Baeriella*.

#### GEN. ANDROMMA.

##### ANDROMMA RAFFRAYI, Sim.

1899. *A. raffrayi*. Simon in Bull. Soc. Ent. Fr., vol. 68, p. 180, figs. A, B, C.

*Specimens* :—

- 1 ♂ and 1 ♀ (12,763). Willowmore. (H. Brauns, 1903, from nest of *Plagiolepis custodiens*.)
- 5 ♂♂ and 1 ♀ (14,330). Stellenbosch. (R. Broom, September 1904.)
- 1 ♀ (12,105). Slopes Devil's Peak, C.T. (Dr. W. F. Purcell, May 1902.)
- 1 ♂ and 1 ♀ (19,055). Cape Town, in nest of *Plagiolepis*.

♀ *Colour*.—Carapace and chelicera pale golden yellow, sternum and legs even lighter, but former darker edged; abdomen pale testaceous. Body entirely clothed with distinct stiff short hairs.

*Eyes*.—See fig. A, *loc. cit.* Anterior row nearly straight; medians larger than the laterals, black, and with black pigmented borders, and over  $1\frac{1}{2}$  diameters apart. Posterior row procurved, medians small, very wide apart, and only  $\frac{1}{2}$  a similar distance from the laterals, which are larger, and contiguous with the anterior laterals.

*Clypeus*.—About twice the diameter of an anterior lateral eye.

*Chelicera*.—Superior border with 3 teeth, inferior border with 1 tooth, and possibly 2 denticles.

*Legs*.—Spineless. Tarsi and metatarsi not scopulate, but with the short stiff hairs stronger and denser, especially on under surface; tarsal claws very small, pellucid, and finely toothed. Metatarsi quite  $1\frac{1}{2}$  times length of tarsi.

*Pedipalps*.—Tarsus slightly longer and stouter than tibia, flat on under surface, but arched or swollen dorsally.

*Vulva*.—Consisting of 2 pits bounded by ear or C-shaped dark-brown ridges, and set in the middle of the sides of a reddish, somewhat heart-shaped plate.

*Measurements*.—Total length, ♀ and ♂, 3.2 mm.

♂ *Colour*.—Carapace and legs slightly darker than in ♀.

*Eyes and Chelicera*.—As in ♀. For latter see fig. B, p. 180, *loc. cit.*

*Legs*.—As in ♀.

*Pedipalps*.—As in fig. C, *loc. cit.* Tibia longer and stouter than patella, and with 3 short stout, dark processes on inner apex, 2 being broad basally, and curved and sharp apically, and the 3rd blunt and complex in shape. Palpal organ with a fine process projecting outwards anteriorly, curving round down outer side of under surface of organ in an S shape, becoming broader and darker basally.



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